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Community participation in the electricity network development project in Bekasi from ecological citizenship perspective

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ABSTRACT

This research explores the role of community participation in the electricity network construction project in Bekasi Regency, by viewing it through the lens of ecological citizenship. Ecological citizenship provides a framework for understanding the link between community participation and ecological responsibility in the context of energy infrastructure development. This research adopts a qualitative approach with a focus on in-depth understanding of the dynamics of community participation, influencing factors, and its impact on environmental sustainability. It is hoped that the research results will provide in-depth insight into the extent to which community participation can increase the sustainability of electricity network development projects. In addition, this research also aims to identify factors that influence community ecological participation in the project. Policy implications and recommendations will be generated to guide the development of similar infrastructure projects in the future by considering the ecological citizenship perspective.

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INTRODUCTION

Infrastructure development is the responsibility of the government to ensure a decent life for the people of Indonesia, in line with the constitution stated in Article 28H of the Constitution, which guarantees the right of every individual to live prosperously in body and soul, to have a place to live, and to enjoy a good and healthy environment. Therefore, the availability of infrastructure is a primary urgency in development. However, the implementation of infrastructure development often encounters obstacles. Challenges arise in the planning and execution of projects, influenced by factors such as regulatory changes, land issues, bureaucracy, and technical constraints. As a result, many projects experience delays, leading to higher costs and suboptimal benefits for the community. For example, Rachmawan's (2016) study on the conflict surrounding the development of the Jatigede dam in Sumedang highlights the lack of attention to social impacts, such as the loss of livelihood for the local community.

Similar issues also occur in the Middle East and North Africa (MENA) region, as revealed by Weinthal & Sowers (2020). Although the initial goal of infrastructure development is to meet urban needs and support overall development, the negative impacts on social and environmental aspects are often overlooked. Consequently, many people are displaced to other countries, ultimately causing new challenges for the recipient countries of refugees.

In this context, it is crucial to enhance the role of civic education in Indonesia (Murdiono & Wuryandani, 2021; Nuryadi & Widiatmaka, 2023; Rachmadtullah et al., 2020; Santoso, 2020; Santoso & Murod, 2021). Research and publication on citizenship themes, particularly community civic, need to be conducted to enable the community to understand and uphold their rights as citizens. Civic disposition, as one of the key dimensions in civic education, plays a significant role. Owen & Irion-Groth (2022) affirm this, “Civic dispositions are orientations and ideals that underpin individuals’ commitment to democracy. They include respect for the rule of law, concern for constitutional rights, appreciation of the freedoms of others, and support for actions that promote the public good.”

Infrastructure development leading to prolonged conflicts is not a new occurrence. One such instance took place in the Babelan area, Bekasi Regency. A private company intended to implement the expansion project of the power plant coal based coal based (PLTU) PT. Cikarang Listrindo's electrical network in Babelan, Bekasi Regency, with the aim of providing adequate and sustainable electrical energy for the community in Bekasi Regency. Currently, the demand for electrical energy is increasing, especially with the growth of the industrial sector in the area. One effort to meet the demand for electrical energy involves expanding the electrical network, including the establishment of a large-capacity Steam Power plant coal based (PLTU, *Pembangkit Listrik Tenaga Uap*).

However, the construction of PLTU Cikarang Listrindo in Babelan, Bekasi Regency, has not always been met with a positive response from the community. There are concerns, protests, and controversies from local residents regarding potential negative environmental and health impacts that may arise from the PLTU's operation. The legitimacy of the project is questioned, and its potential impact on the surrounding community and environment is a subject of debate. According to the research by Ananda & Jamaluddin (2020), the construction of electrical transmission lines (SUTET) in the midst of residential areas can cause symptoms of health hypersensitivity. These symptoms include headaches, dizziness, sleep disturbances, chronic fatigue, unstable heart rate, nausea, digestive disorders, difficulty concentrating, skin rashes, mental confusion, and depression. Furthermore, there is concern about the increased risk of leukemia by 70% since birth, especially for children living in an environment with SUTET (Nawawi, 2018).

On its official website listrindo.com, the company conveys that the expansion of the electrical network is intended for the benefit of all stakeholders, including the community, government, and investors. The company emphasizes that the expansion aims to meet the increasing electricity demand in the region and create new job opportunities. They also highlight their commitment to addressing environmental and social aspects by taking measures to minimize environmental impact and enhance the well-being of the community around the project.

However, the perception of the local community differs. According to information from mongabay.com, some residents do not fully experience the promised positive impacts and initiatives. Although several initiatives have been implemented as part of the company's Corporate Social Responsibility (CSR), after the application of various measures, the community begins to feel negative impacts, especially in the social sector. For example, despite promises that recruited employees would come from the local community near the power plant coal based, only a few individuals are accepted as employees. This situation can create social imbalances among the community.

Based on the explanation, the researcher intends to conduct a study exploring the role of community participation in the electricity network construction project in Bekasi Regency, by viewing it through the lens of ecological citizenship. The hope is that the results of this research can provide information related to community efforts to participate in preserving a healthy environment amidst the bustling development activities of the factory.

METHOD

This research adopts a qualitative approach. This study is grounded in naturalism, focusing on constructing current knowledge based on events and visualizing the interrelation of different phenomena. The research is executed without statistical calculations, relying on verbal interpretation through narrative data connected to specific theories.

The dependent variables in this study are the Number of Pension Security Participants and the independent variables in the study are data on Human Development Index (HDI), Gross Regional Domestic Product (GDP), Open Unemployment Rate (TPT, *Tingkat Pengangguran Terbuka*), Information and Communication Technology Development Index (IPTIK), Young age (15-24) who are not in school, working or training (NEET), Proportion of Average Hourly Wages to Provincial Minimum Wages, Gini Ratio, and Labor Force Participation Rate (TPAK, *Tingkat Partisipasi Angkatan Kerja*).

The data analysis used in this study used techniques with Panel Data Regression and Regulatory Impact Analysis (RIA). Panel Data is a combination of time series data and cross section data. Panel data regression models are expressed in the form of equations:

$JPP_{it} = \alpha + \beta_1(IPM_{it}) + \beta_2(PDRB_{it}) + \beta_3(TPT_{it}) + \beta_4(IPTIK_{it}) + \beta_5(NEET_{it}) + \beta_6(UPAH_{it}) + \beta_7(GINI_{it}) + \beta_8(TPAK_{it}) + \varepsilon_{it}$

Dimana:

JPPit	: Number of BPJS Employment Pension Insurance Participants
α	: Constance
β1 β2 β3 β4 β5 β6 β7 β8	: Regression Coefficient
IPM it	: Provincial Human Development Index i in year t

PDRB it : Provincial Gross Regional Domestic Growth i in year t
IPTIKit : Technology and Information Development Index i in year t
NEETit : Unemployed youth not included in the work/training period in year t
UPAHit : Proportion of Average Hourly Wages to Wages i in year t
GINIit : Poverty ratio i in year t
TPAKit : Provincial Labor Force Participation Rate i in year t
εit : Error term

The data will be processed using office excel application software and Eviews 12.0 software. The selection of the best panel regression model between common effect, fixed effect, and random effect was done using the Chow, Hausman and Lagrange multiplier tests. The selection criteria for the best model use the following conditions:

Tabel 1. Best Model Determination

No	Test Type	Decision	Conclusion
1	Hausman Test	Reject H_0	Fixed effect
2	Chow Test	Reject H_0	Fixed effect
3	Lagrange Multiplier Test	Accept H_0	Random effect

From the results of the best model suitability test, hypothesis testing was carried out using the t test and F test. The t test is used to measure how far the influence of one independent variable individually in explaining the dependent variable. If t counts > t table then we accept an alternative hypothesis that states that an independent variable individually affects the dependent variable. Meanwhile for the F test, the statistical F test aims to determine the influence of the independent variable on the dependent variable together (simultaneously). This test uses the F test 95% confidence level and error rate (a) 5% and degree of freedom (df1) = k-1, degree of freedom (df2) = n-k. The decision-making criteria are as follows:

1) If the F-count < the F-table with a significant value of F < 0.05 then, the hypothesis will be accepted. This means that there is a significant influence on the independent variable on the dependent variable.
2) If F-calculate > F-table with a significant value of F > 0.05 then the hypothesis will be processed. That is, there is no significant influence on the independent variable on the dependent variable.

the coefficient of determination (R2) is the ability to measure a model in interpreting the dependent variable. The value of the coefficient of determination is between 0 and 1. A small value of R 2 can mean that the ability of the independent variable to explain the variation of the dependent variable is very limited. The coefficient of determination has a fundamental weakness, namely the existence of the number of independent variables entered into the model. The use of R-squared values is necessary because each additional one independent variable will increase the coefficient of determination (R2), although the variable is not significantly meaningful, if it approaches the value of 1, the independent variable can provide the desired information in predicting the dependent variable. However, if the value is close to 0 then the independent variable cannot provide the desired information in predicting the independent variable.

RESULTS AND DISCUSSION

Community Participation in the Electricity Network Development Project in Bekasi Regency Through an Ecological Citizenship Lens

Active participation of the community in the development of the electrical network project serves not only as a reminder to the company but also makes a tangible contribution to the effort to preserve the sustainability of nature and the environment. The involvement of the community in this process is indeed a sign of a positive step in line with the principles of ecological citizenship. These principles emphasize not only individual rights but also the collective responsibility in using natural resources in a balanced manner.

It is important to acknowledge that the construction and expansion of infrastructure, especially in areas like Babelan District, must be carried out with consideration for its impact on the local environment. With the growth of the economy and the increasing demand for energy, development companies have a crucial responsibility in achieving a balance between development and environmental conservation.

The correlation between the community, companies, and the environment creates a complex dynamic. This involves not only technical and economic planning but also a profound understanding of the needs and aspirations of the local community. By remaining mindful of the state of nature and the environment, infrastructure development can become a positive force for economic growth and the well-being of the community without compromising environmental sustainability.

In this context, ecologically responsible development practices are becoming increasingly important. This includes the implementation of eco-friendly technologies, mitigation of potential environmental impacts, and empowering the community in decision-making processes related to their environment. Thus, the electrical network development project becomes not only a means to meet energy needs but also a platform for creating harmony between humans and nature. The forms of participation carried out by the community will be explained as follows:

1. Negotiation with the company. Negotiation is the process between two parties with interests in discussing or reaching a new agreement that represents the interests of both parties. According to Suwandi et al. (2023), the negotiation process involves intensive steps typically engaging at least two parties with the aim of achieving a mutual agreement. This activity plays a crucial role in the business world, particularly in the manufacturing sector. The negotiation process involving representatives of the community, community leaders, and organizational figures negotiating with the company, alongside representatives of the local government, is a crucial step in determining the direction of the upcoming project. The goal of community involvement in these negotiations is to gain clarity regarding the development plans and potential impacts that will affect their lives, especially the natural and environmental impacts that will occur. Although the negotiation process has progressed relatively well, a critical drawback that has disadvantaged the community is the lack of transparency in project-related information. The community agreed to the reached agreements and provided evidence in the form of duplicated Identity Cards (*Kartu Tanda Penduduk* or KTP). However, when the project was revealed to be not a museum or housing development but rather a power plant, the community felt disappointed and adversely affected. Throughout this process, the company committed to providing numerous job opportunities for residents of Babelan subdistrict, creating the potential for an improvement in the well-being of the local community. However, dishonesty, lack of transparency, and inaccurate information can lead to dissatisfaction and mistrust among the community, as well as various other negative repercussions. Therefore, it is crucial to enhance transparency and communication between the company and the community during the negotiation phase to prevent discrepancies in expectations and avoid negative consequences for both parties. By strengthening communication and community engagement, the negotiation process can serve as a solid foundation for sustainable development projects that support mutual interests.
2. Demonstrations and road closures. These kinds of forms mark the culmination of community dissatisfaction following an unsatisfactory negotiation process. Widespread disappointment and a sense of being wronged have intensified among the community due to unfulfilled promises and agreements made during negotiations that were not honored by the company. Errors and dishonesty in revealing the true nature of the project have been the primary triggers of distrust. In an effort to reclaim their rights, especially concerning the protection of the environment, the community deemed it necessary to take further action. Demonstrations and Road Closures became the effective means they chose to express their disapproval and demand the fulfillment of promises. The active participation of the community in these demonstrations reflects their desire to be involved in decision-making regarding the development of the electrical network. They demand that their voices be heard, and their rights be respected. In this context, the efforts through demonstrations and road closures become a powerful expression of dissatisfaction and a desire to achieve justice. The benefits of this participation extend beyond expressing dissatisfaction; they also include the acknowledgment and realization of some of the community's demands by the company. Although these actions may bring tension, they create awareness of the need for transparency, integrity, and community involvement in every stage of a project that can significantly impact their lives.
3. Main road revitalization. After the demonstration and road closure, the company gradually started to respond more attentively to the aspirations and grievances of the community. Measures taken included collaboration with the community to repair the damaged roads resulting from the construction of the factory. In the context of community participation, the goal goes beyond mere infrastructure repair; involving the community in this effort is expected to recreate a supportive and conducive environment. Community participation is not just about physical improvements but also aims to restore the daily lives of the community. The focus encompasses economic and educational aspects, with the hope that this involvement will not only bring about physical environmental improvements but also broader benefits for the social and economic aspects of the local community. Thus, this step reflects an effort to rebuild the balance between industrial development and the well-being of the community.

The community's efforts through negotiations with the company, demonstrations and road blockades, as well as road repairs, can be viewed as steps toward ecological citizenship. These actions are not only taken to defend their violated rights but also serve as a form of participation in protecting nature and the

environment. This approach aligns with the concept proposed by Karatekin and Uysal (2018), emphasizing that every action taken by the community reflects underlying values associated with responsibility towards the environment and sustainability. The negotiation process, for instance, is not merely about reaching economic or social agreements but also serves as a platform to explore solutions that support ecological balance and environmental preservation. Through this participation, the community not only strives to obtain justice for their rights but also voices concerns about the environmental impacts of specific policies or projects. This creates a deeper dynamic where efforts to achieve a balance between economic needs and environmental preservation become a shared commitment. Thus, community participation is not just about self-defense but also about taking proactive steps to maintain harmony between humans and nature.

Furthermore, in line with the aforementioned, the community's participation can also be seen as a form of ecological citizenship, as emphasized by Dobson (2007). According to him, ecological citizenship refers to the acknowledgment of the interdependence between humans and nature. In the context of these demonstrations, the community actively articulates their responsibilities toward the environment, reflecting the spirit of ecological citizenship emphasized by Dobson.

Moreover, according to Isbandi's explanation (2007), the efforts made by the community in the Babelan sub-district constitute participation. Isbandi, in his presentation, states that community involvement involves a series of steps, starting from identifying issues and potentials in their environment, selecting and making decisions related to alternative solutions to address problems, to implementing troubleshooting steps and maintaining community stability when evaluating the impacts of changes. In the context of demonstrations and road blockades, the participatory efforts of the community represent an alternative solution that includes recognizing issues related to environmental damage, choosing concrete actions to demand change, actively engaging in protests, and contributing to environmental preservation and the overall well-being of the community.

Factors Influencing Community Participation in the Bekasi Regency Community Electricity Network Development Project from an Ecological Citizenship Perspective

In every participatory effort undertaken by a community, there are specific factors that determine and influence such participation. Based on the explicit presentation of the background issues, it can be inferred that the entire community is likely to participate in any effort aimed at preserving nature and the environment, particularly concerning their rights as citizens. This is not intended to thwart the project but rather an effort to defend themselves for sustainable development.

Various determining factors influencing the decision-making of the community can be categorized as parameters. These factors are beyond the control of external individuals, as they predominantly originate from within the individuals themselves without influence from others. Thus, in this case, these factors can come from both internal and external avenues. Building upon the earlier discussion regarding the forms and efforts made by the community, this section will delve into the factors influencing community participation in the electricity network development project. Some of these factors include the following.

1. Negotiation with the company. Participation in this context is influenced by various internal factors that involve awareness of the deteriorating environmental conditions, particularly related to road damage and the negative impact of development that creates air pollution. Additionally, cultural and ethnic characteristics of the Betawi tribe, economic conditions of the community, and personal experiences of individuals are elements that contribute to their level of participation. Furthermore, external factors also play a crucial role in shaping community participation. One of these elements is the influence received from respected figures in community organizations, such as Mr. Suhermin. His expertise and dedication in mediating and advocating for the rights of the Babelan community make him a respected figure capable of motivating people to actively engage in the ongoing participation processes.
2. Demonstrations and road closures. Various internal factors drive community participation, such as a declining economic condition, obstacles in children's education, social solidarity emerging from shared sentiments, and dissatisfaction arising from the perception that they have been deceived and trapped by the actions of the company. These factors create a strong incentive for the community to make effective efforts to address these negative impacts. On the other hand, external factors also play a significant role in motivating community participation. Particularly, the outstanding contribution of Mr. Suhermin is not limited to the negotiation process but extends to aiding in opening communication channels between the community and the company. Mr. Suhermin's presence as a mediator not only provides a platform for the community to express their grievances and aspirations but also strengthens the spirit of participation. Overall, these internal and external factors complement each other, forming a robust foundation for community involvement in a process that encompasses shared interests and the pursuit of justice.

3. Main road revitalization. The internal factors motivating community participation involve diverse personal interests. The community feels the need to actively engage because they seek access to quality roads, crucial for supporting both economic aspects and the education of their children. Additionally, awareness of the sustainability of nature and the environment for future generations serves as a strong motivation for the community to be directly involved in various initiatives. On the other hand, external factors in this context encompass the company's response and openness to community demands. The willingness of the company to listen and progressively realize the aspirations of the community is a crucial element stimulating participation. This process can foster better relations between the company and the community, build trust, and enhance the effectiveness of collaboration in achieving common goals. Overall, there is a complex interplay between internal and external factors that collectively shape the landscape of community participation, creating an environment where individual interests and community sustainability are accommodated simultaneously.

The previous findings, namely negotiation, demonstrations and road blockades, as well as road recovery, align with the concept of internal and external factors explained by Nurbaiti & Bambang (2017) and Hadi et al. (2018). This encompasses the individual perspective and external factors influencing community participation.

According to Nurbaiti & Bambang (2017), internal factors involve individual characteristics that affect one's participation in an activity. This includes age, gender, family role, education level, ethnic background, religious beliefs, language, occupation, income level, distance from the activity location, and land ownership. All of these play a role in community involvement in the participation efforts. Individual awareness of the importance of good infrastructure, environmental sustainability, and personal benefits from such participation can be influenced by these factors.

Meanwhile, other internal factors highlighted by Hadi et al. (2018), such as age, educational background, occupation, income level, and length of residence, also shape the dynamics of community participation. Individuals with higher education may have a deeper understanding of the impact of development. Occupational and income levels can also influence personal priorities and interests in participation.

From an external factor perspective, which involves external parties with an interest in a program, Nurbaiti & Bambang (2017) indicate that village officials, community leaders, local government, non-governmental organizations (NGOs), and third parties have the potential to have a significant influence. In the context of this form of participation, the involvement of external parties can be a key factor motivating community participation. Support from village officials, community leaders, as well as the intervention of local government or NGOs, can be the main drivers for community involvement in the road improvement process.

CONCLUSION

Based on the research findings, it can be concluded that openness and transparency are the key principles that should be prioritized. Every procedure in establishing or developing a project should be conducted with utmost honesty, without engaging in any illegal practices that may harm any party. Transparency and openness are crucial, especially during the negotiation process. If, post-negotiation, there are protests and disturbances, it indicates a potential snag in one of the executed procedures, as there are parties who feel disadvantaged by the agreement.

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