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**< Oral Presentation >**

**Public Participation in Environmental Impact Assessment in Thailand**

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**Abstract**

This Article had objective of this study is to explore the level of public participation in environmental impact assessments (EIA) in Thailand. This is a survey -based study that utilized a five -point Likert scale questionnaire, with a sample of 384 Thai citizens who participated in the EIA process. The data were analyzed using descriptive statistics, including mean and standard deviation. The results revealed that public participation in EIA is at a high level, with an average score of 3.63. When considering each aspect , "Project Context" had the highest average score of 3.72, categorized as high. Following this, the aspects of "Impacts," "Process," "Outputs," and "Input" had average scores of 3.68, 3.63, 3.58, and 3.53, respectively, all of which are also categorized as high.

**Keywords:** Environmental Impact Assessment, Public Participation

## **Introduction**

Environmental Impact Assessment (EIA) is a crucial tool for the sustainable management of natural resources and the environment. It helps to identify and analyze potential impacts arising from various activities that may affect the environment, such as the degradation of natural resources or increased pollution, which can harm human health and other living organisms. The use of EIA allows stakeholders to make informed decisions on appropriate measures to mitigate or prevent potential adverse impacts, based on accurate data and analyses. (Bond & Morrison-Saunders, 2020; Yang, Mi, Zhao & Lam, 2020) Additionally, EIA supports compliance with environmental laws and standards specific to each country, ensuring that projects adhere to legal requirements and do not cause irreparable damage. Thus, environmental impact assessment plays a vital role in promoting sustainable economic and social development, by maintaining a balance between economic growth and environmental protection for the long-term benefit of humanity and the planet. (Bond & Morrison-Saunders, 2020; Soria-Lara & Pinho, 2020)

Public participation in Environmental Impact Assessment (EIA) is a critical and necessary process for promoting sustainable development. This is because local communities, who are directly affected by various projects, play an essential role in providing information and feedback on potential impacts. Public involvement helps to identify issues or risks that might otherwise be overlooked, ensuring that the project aligns with the actual needs and concerns of the community. (Bond & Morrison-Saunders, 2020; Li, Zhang & Ding, 2020; Yang, Mi, Zhao & Lam, 2020) Public participation also enhances transparency in the decision-making process by providing opportunities for the public to express their opinions. This fosters mutual understanding between project developers and those affected, and helps reduce potential conflicts that may arise in the future. Furthermore, participation promotes accountability towards both the environment and society, which is crucial for achieving sustainability in both economic and environmental aspects. (Li, Zhang & Ding, 2020)

Moreover, the public can serve as a tool for monitoring and evaluating the long-term impacts of projects once they are implemented. Public participation allows for the observation and reporting of any emerging impacts, enabling timely adjustments or corrections to be made. Therefore, public involvement in environmental impact assessment is a crucial mechanism for achieving a balance between development and the sustainable protection of the environment. (Roque de Oliveira & Partidário, 2020) However, there are still several issues concerning public participation in Environmental Impact Assessment (EIA) that persist today. These include the lack of access to clear and easily understandable information, insufficient inclusivity in participation, which results in certain groups being excluded from receiving information or having the opportunity to provide feedback, a lack of transparency in the decision-making process, and inadequate responses to public concerns. As a result, the environmental impact assessment may fail to adequately reflect the true needs and concerns of the community. (O'Faircheallaigh, 2020; Panigrahi & Amirapu, 2020)

The objective of this study is to explore public participation in Environmental Impact Assessment (EIA) in Thailand. The data obtained from this research will contribute to the development and promotion of public participation processes, as well as addressing issues related to public involvement in environmental impact assessments in Thailand, with the aim of achieving sustainable solutions.

## **Research Objectives**

1. To explore the level of public participation in Environmental Impact Assessment (EIA) in Thailand.

## **Review Literature**

Public participation in the Environmental Impact Assessment (EIA) process is a critical mechanism that directly influences the success of sustainable development projects. Providing

opportunities for public involvement in this process not only enhances transparency and strengthens the credibility of the decision-making process, but also fosters a better understanding of the potential impacts on the environment, communities, and natural resources. (Roque de Oliveira & Partidário, 2020) High- quality public participation leads to more thorough scrutiny, more careful consideration of alternatives, and helps reduce conflicts between project developers and stakeholders. (O’Faircheallaigh, 2020) Furthermore, effective participation helps to build mutual understanding and shared responsibility among government agencies, project developers, and local communities, particularly when environmental impacts are complex and may have long-term consequences. Appropriate communication tools, such as visual aids and the presentation of information in easily understandable formats, are key factors that enhance the quality of public participation. These tools enable the public to access information, analyze impacts, and engage more effectively in the decision-making process. (Yang, Mi, Zhao, & Lam, 2020) that ensures development proceeds in a balanced manner, aligns with the local context, and leads to fairer and more sustainable outcomes. (Li, Zhang & Ding, 2020; O’Faircheallaigh, 2020)

The issue of public participation in the Environmental Impact Assessment (EIA) process has garnered significant attention in academic circles. For instance, Yang, Mi, Zhao, and Lam (2020) conducted a study on Global Topics and New Trends in Coastal Research: Port, Coastal, and Ocean Engineering, which addresses key challenges and trends in research and development in the field of port and coastal engineering. This study emphasizes the issue of public participation in Environmental Impact Assessment (EIA), highlighting the crucial role of the public in the EIA process. It underscores that providing opportunities for public involvement in the consideration and decision-making of development projects enhances the thoroughness and accuracy of the assessment. Furthermore, widespread public participation helps reduce errors that may arise from assessments lacking a comprehensive approach or social dimension. It also enhances the transparency and credibility of the EIA process, leading to more effective policy decisions that are widely accepted by all stakeholders. Furthermore, the research by Roque de Oliveira and Partidário (2020) titled How Visual Tools in EIA Help Public Participation: A Case Study from Portugal highlights the role of visual tools, such as maps, diagrams, and interactive platforms, in making complex technical information more accessible and understandable. These tools play a key role in enhancing the quality of public participation by enabling communities to better recognize and comprehend environmental impacts. Additionally, these tools improve communication efficiency between stakeholders, including government agencies, project developers, and local communities, by presenting environmental risks and mitigation measures in a clear and comprehensible format. The use of visual tools also stimulates public interest and participation, as they allow the public to visualize the overall environmental changes, making the assessment process more transparent and increasing opportunities for public input. Moreover, these tools assist policymakers in analyzing data systematically and accurately, resulting in more comprehensive, balanced decision-making that leads to outcomes beneficial to both the community and the environment in the long term.

### **Research Methodology**

This study is quantitative research using a survey research technique. Data was collected from a sample of 384 individuals using a five-point Likert scale questionnaire. The data were analyzed using descriptive statistics, including the mean and standard deviation. The interpretation of the mean was based on Best's (1997) criteria as follows 1.00 – 1.50: Very Low 1.51 – 2.00: Low 2.01 – 2.50: Moderate 2.51 – 3.00: High 3.01 – 3.50: Very High 3.51 – 4.00: Very High 4.01 – 4.50: Very High 4.51 – 5.00: Very High

Population and Sample

### **Population**

The population consists of individuals who participated in the Environmental Impact Assessment (EIA) process for projects certified by the Office of Natural Resources and Environmental Policy and Planning in the year 2024, totaling 282 projects.

### **Sample**

The participants in the Environmental Impact Assessment (EIA) process were individuals involved in projects certified by the Office of Natural Resources and Environmental Policy and Planning in the year 2024, totaling 141 projects and 384 individuals. According to Israel (1992), for survey research where the true population size is unknown, the minimum sample size should not be less than 384 units. The sampling process employed a multistage random sampling technique.

### **Research Variables**

The variables used in this study include Public Participation in Environmental Impact Assessment (EIA), which consists of five components (1) Project Context (2) Input Factors (3) Process (4) Outputs (5) Impacts

### **Research Instruments**

The instrument used in this study is a five-point Likert scale questionnaire, which has been validated for content validity using the Item-Objective Congruence (IOC) technique by five experts, with values ranging from .60 to 1.00. The questionnaire was pre-tested, and item discrimination power was evaluated using the Corrected Item-Total Correlation technique, with values ranging from .483 to .873.

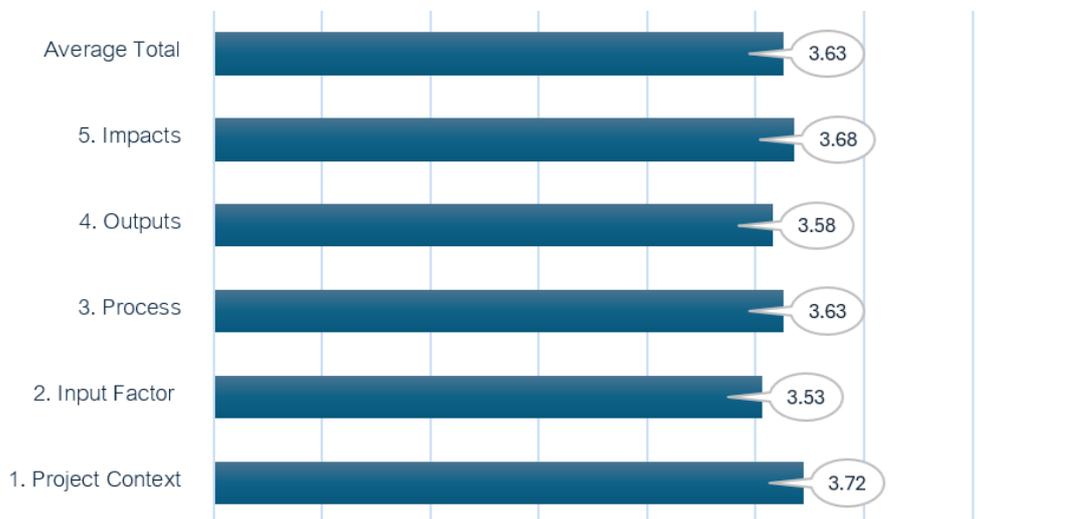
The overall reliability of the questionnaire was assessed using Cronbach's Alpha, yielding a value of .901.

### **Research Result**

Table 1 Survey Results on the Level of Public Participation in Environmental Impact Assessment in Thailand

Public Participation in Environmental Impact Assessment	Mean	Std. Deviation	Level
1. Project Context	3.72	.74	High
2. Input Factor	3.53	.62	High
3. Process	3.63	.73	High
4. Outputs	3.58	.31	High
5. Impacts	3.68	.58	High
<b>Average Total</b>	<b>3.63</b>	<b>.60</b>	<b>High</b>

Table 1 The results show that Public Participation in Environmental Impact Assessment is at a high level, with an average score of 3.63. When considering each component, Project Context has the highest average score of 3.72, categorized as high. This is followed by Impacts, Process, Outputs, and Input, with average scores of 3.68, 3.63, 3.58, and 3.53, respectively, all categorized as high.



## Discussion

The research findings indicate that public participation in Environmental Impact Assessment (EIA) is at a high level ( $M = 3.63$ ), reflecting the legal requirement that large projects, which may impact society and the environment, must undergo a formal EIA process. Therefore, project developers must prioritize the EIA process by encouraging and persuading local communities to participate in the assessment. This is because, currently, the public places greater importance on environmental impacts, especially those that affect health, such as PM<sub>2.5</sub> pollution and water contamination, which directly impact quality of life. The media has continuously presented information about these issues, raising public awareness, especially when large-scale projects are being implemented in communities. This has motivated the public to engage actively in the EIA process (Department of Environmental Impact Assessment Systems Development, 2019; Environmental Impact Assessment Office, 2021; Information and Public Relations Division, Public Relations Department, 2020)

Additionally, the results showed that the average score for Project Context was 3.72, the highest among all factors. This result highlights the prominent involvement of the public in providing information related to the social, economic, cultural, and environmental context of the EIA activities. This participation reflects the public's awareness of the project's potential impacts and their role in voicing concerns related to the environment and community. It also indicates that communication about the project and its potential impacts has been clear and transparent, allowing the public to fully engage in evaluating and proposing improvements (Li, Zhang, & Ding, 2020; Yang, Mi, Zhao & Lam, 2020; O'Faircheallaigh, 2020)

For the Input Factor, the average score was 3.53, indicating the significant role of the public as a valuable resource in the EIA process. This reflects their voluntary and committed involvement in supporting the process to ensure maximum effectiveness. Public participation in providing information and supporting various processes demonstrates their willingness to take shared responsibility and accept their role in developing and improving the environment, leading to results that align with community and societal needs (Roque de Oliveira & Partidário, 2020; Khan, Chaudhary, Ahmad & Saif, 2020)

For the Process component, with an average score of 3.63, the findings demonstrate the public's participation in driving the EIA process towards the achievement of its set objectives. They facilitated communication between the assessment activities and cooperated both as information providers and community coordinators. This reflects the public's growing awareness of the potential impacts on their community and environment. They recognize the importance of the EIA process in their daily lives and future, thus participating in providing information and coordination, which contributes to shared responsibility and enhances transparency and efficiency in the process (Caro-Gonzalez, Toro & Zamorano, 2021; Poboorn, 2011; Rega & Baldizzone, 2015; Servaes & Servaes, 2021)

For the Outputs, the average score was 3.58, indicating the public's involvement in reporting the findings of the environmental impact assessment to ensure the accuracy of the results based on the data provided by the community. Furthermore, they contributed suggestions regarding measures to mitigate impacts on the community and proposed the best environmental management practices. This reflects the public's direct stake in the outcomes of the projects that affect their community and environment. Their involvement in giving feedback demonstrates an understanding of the importance of participating in decision-making processes that shape the future of their community and the environment (Information and Public Relations Division, Public Relations Department, 2020; Editorial Board of the Environmental News Agency, 2019; Servaes & Servaes, 2021)

For the Impacts component, with an average score of 3.68, the findings indicate the public's involvement in monitoring and tracking the impacts of large - scale projects on the community, ensuring minimal negative impacts. This is due to the public's heightened awareness of the potential effects of such projects. Their desire to protect their environment and community well-being underscores their shared responsibility and commitment to safeguarding the community's interests. Their involvement in impact monitoring also enhances the transparency of the project's operations and facilitates timely adjustments when unforeseen issues or adverse impacts arise (Panigrahi & Amirapu, 2020; Poboorn, 2011; Rega & Baldizzone, 2015).

### **Research suggestions**

Government agencies should develop training programs or seminars to educate the public about the EIA process, focusing on helping them understand the various stages involved, from providing information and participating in the assessment process to monitoring the resulting impacts. These training sessions can take various forms, such as online training, workshops, or community-based activities to provide local-level information.

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