



Principles of Conservation-Based Ticket Pricing at the Kawah Putih Ciwidey Nature Tourism Site

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ABSTRACT

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Ticket pricing at nature-based tourism destinations within protected forest areas serves not only as a revenue mechanism but also as an instrument for area management and conservation. This study examines the principles of conservation based ticket pricing at Kawah Putih Ciwidey using a qualitative approach through in-depth interviews with destination managers and academics, supported by document analysis. The findings indicate that ticket pricing at Kawah Putih Ciwidey is primarily viewed as an access cost rather than an explicit conservation financing instrument, with ticket revenue functioning as supplementary income that has not been sufficient to cover all environmental maintenance and restoration expenses. Revenue earmarking mechanisms have not been transparently implemented at the local management level, while site specific pricing based on environmental carrying capacity and conservation costs has not been systematically integrated into area management policies. The study concludes that the application of conservation-based ticket pricing principles at Kawah Putih remains partial and requires policy reformulation that is more transparent, based on specific site characteristics, and explicitly links ticket prices to conservation objectives to support sustainable management of nature-based tourism destinations.

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Introduction

Tourism has become a fundamental need of modern society, no longer limited to entertainment but also oriented toward the pursuit of meaning and experience. Changes in lifestyle, advancements in information technology, and increased mobility have positioned tourism as an integral part of socio-economic life. Sutrisno (1998) defines tourism as all activities and experiences encountered by visitors during travel, both individually and in groups, including direct interactions with the environment, culture, and social dynamics.

Indonesia possesses extraordinary natural resources, including diverse landscapes, cultures, culinary traditions, and local wisdom. One of the leading tourism provinces is West Java, which offers a complete geographical landscape ranging from mountains and volcanic craters to waterfalls and forest areas.

Data obtained from the Department of Tourism and Culture shows that the number of domestic tourist visits to Bandung Regency has demonstrated a significant upward trend over the past two years. A very significant increase was recorded from 2023 to 2024, reflecting the high appeal of Bandung Regency as a premier tourist destination in West Java. This success is driven by a number of iconic destinations, most notably Kawah Putih Ciwidey, renowned for its unique volcanic landscape and long established as a major attraction for tourists.

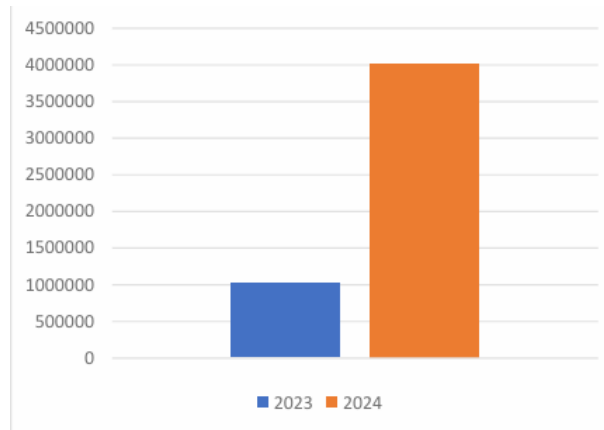


Figure 1. Domestic Tourist Visit Data (Wisnus) of Bandung Regency

Perum Perhutani Unit III West Java and Banten officially manages Kawah Putih as a nature tourism attraction. Based on clarification with the management, Kawah Putih Ciwidey is located within a protected forest area managed by Perum Perhutani and does not fall under formal conservation areas such as national parks or nature reserves as regulated under Law No. 5 of 1990 on Conservation of Biological Natural Resources and Their Ecosystems. Nevertheless, its protected forest status still mandates the application of environmental protection principles in its utilization.

Lindberg (1991) asserts that ticket pricing at nature tourism destinations situated in areas with environmental protection functions cannot be equated with conventional tourism destinations, as it must account for the costs of maintaining the area's ecological functions and controlling the impact of tourist visits on the environment. Increased visitor intensity in such areas also carries consequences for the sustainability of the area's protective function, particularly regarding pressure on ecosystems and environmental quality.

The use of protected forest areas for nature tourism activities is generally permitted as long as it does not disrupt the area's primary functions. However, in practice, tourism activities still have the potential to cause ecological pressure, both directly and indirectly, such as increased waste volumes, vegetation disturbance, expansion of visitor activity trails,

and growing demand for tourism support infrastructure. These conditions necessitate sustainable environmental management and protection efforts.

The vulnerability of nature tourism areas to visitor activities is evidenced by various environmental disturbance incidents in the field. One notable example is the 2019 fire at the Kawah Putih Ciwidey tourism area, which was strongly suspected to have been triggered by a cigarette butt discarded by a visitor. This incident demonstrated that tourism activities, despite being recreational in nature, still pose significant risks to natural area preservation if not accompanied by adequate management and oversight.

Kawah Putih remains a favorite destination, especially during long holiday periods such as Eid al-Fitr and Christmas–New Year. Data from the Bandung Regency Culture and Tourism Office shows that the area received approximately 55,000 visitors during the Christmas–New Year holiday period (Jabar Ekspres, 2024). However, amid its high popularity, visitor complaints about entry ticket prices and additional fees at Kawah Putih have emerged. A number of visitors consider that the entry ticket price and additional fees at Kawah Putih are relatively high compared to other nature tourism destinations in West Java.

The predominance of price-related complaints reflects a gap between price and perceived value. According to Kotler and Armstrong (2016), price perceptions that do not match consumer expectations can influence purchasing decisions and satisfaction with a product or service. This means that ticket pricing disproportionate to the benefits received by tourists can negatively affect visitation decisions. Price itself is defined as an amount of money exchanged to obtain a product or service, making the balance between cost and benefit central to tourists' value perception (Kotler & Armstrong, 2016).

Nevertheless, for nature tourism destinations in protected forest areas such as Kawah Putih Ciwidey, pricing cannot be equated with ordinary tourism destinations. Lindberg (1991) affirms that nature tourism ticket prices serve two primary functions: as an economic tool to fund area operations and conservation, and as a visitor management tool to control environmental impacts.

This research selected Kawah Putih as the study site because preliminary findings identified pricing as the most dominant issue in visitor reviews of the destination. This situation makes Kawah Putih an interesting case study of a volcanic tourism destination facing a dilemma between economic interests, accessibility, and environmental sustainability.

However, research examining how conservation-based pricing principles are applied in the context of nature tourism destination management in Indonesia — particularly in protected forest areas such as Kawah Putih Ciwidey — remains limited. Therefore, this study aims to fill that gap by exploring the pricing practices employed by managers and comparing them with academic perspectives on conservation-based ticket pricing principles.

Methodology

This study employs a qualitative approach with a descriptive-exploratory research design aimed at describing and exploring in depth the process of nature tourism ticket pricing. According to Creswell (2014), qualitative research is a method used to explore and understand the meanings attributed by individuals or groups to a social or human problem, wherein the researcher constructs a complex and holistic picture, analyzes words, reports detailed views from informants, and conducts the study in a natural setting.

The descriptive-exploratory research design was selected because this study aims not only to describe the phenomenon of tourism ticket pricing as it exists, but also to explore the various dimensions influencing that process based on field findings. According to Neuman (2014), exploratory research is conducted when the research topic is relatively new or has not been extensively studied, with the primary goal of developing an initial understanding and generating a conceptual framework for further research. Through this approach, the study is

expected to produce a comprehensive understanding of nature tourism ticket pricing practices in protected forest areas.

Result and Discussion

Result

The research site is the Kawah Putih Ciwidey nature tourism destination, located in Pasirjambu Sub-district, Bandung Regency, West Java Province. Kawah Putih is a volcanic nature tourism destination situated within a protected forest area managed by PT Palawi Risorsis, a subsidiary of Perum Perhutani Unit III West Java. Ecologically, the Kawah Putih Ciwidey area is surrounded by protected forest, which serves primarily as a life-support buffer system. Forest cover around the crater plays an important role in maintaining ecosystem stability, regulating water systems, controlling erosion, and minimizing the risk of environmental degradation from human activity.

The area's main attraction is a volcanic crater lake with an environment highly sensitive to tourism activities, requiring special attention to area sustainability. The area's vulnerability to tourism activities is evidenced by the 2019 fire at Kawah Putih, which according to an investigation by the Ciwidey Police Chief was suspected to have been triggered by a cigarette butt discarded by a visitor. The consequences of that fire were not only widespread environmental damage, but also left marks still visible at the time of the research.

Areas of degraded vegetation around the Kawah Putih Ciwidey tourism area indicate ecological pressures that can be influenced by various factors, including tourism activities and past environmental disturbance events. This condition underscores the importance of sustainable area management, particularly in maintaining a balance between tourism utilization and environmental protection. In the management of nature tourism areas, entry ticket pricing policy serves as one instrument supporting area management. Entry ticket prices function not only as an access cost for visitors, but also as a revenue source for managers in carrying out operational and area management activities.

Kawah Putih Ciwidey implements an entry ticket pricing policy as an access cost for visitors entering the tourism area. Based on interviews with the management and field observations, the entry ticket price at the time of the research was set at IDR 63,000 per person for domestic tourists and IDR 122,000 per person for foreign tourists, in accordance with the manager's policies applicable during the research period.

Informants in this study were selected purposively, considering their connection and relevance to the topic of nature tourism ticket pricing based on conservation principles. Informants consisted of two main groups: managers of the Kawah Putih Ciwidey tourism destination and academics in the field of tourism. Selecting both groups aimed to obtain a comprehensive understanding from both the practical management perspective and the academic viewpoint.

The manager informant, coded SU (Informant 1) is a party involved in the analysis and decision-making of destination management in West Java, with direct knowledge and experience related to destination management policies, including ticket pricing, area management planning, and operational decision-making related to the sustainability of Kawah Putih Ciwidey. The academic informant, coded FR (Informant 2) is an academic with a background and competence in tourism studies, particularly related to nature tourism management and sustainable tourism. The academic's perspectives provide a theoretical and normative viewpoint on conservation-based ticket pricing principles and serve as a counterpoint to the pricing practices applied by managers in the field.

Research Findings

Ticket Pricing Principles (Manager’s Perspective)

Based on interviews conducted with informant SU, the following data were obtained:

Table 1. Summary of Manager Interview Findings

Indicator	Findings
Ticket Revenue as Supplementary Income, Not a Replacement for Primary Funding Sources	1. Costs covered include HR, infrastructure maintenance, operations, and PNB
	2. Additional optional services available outside the entry ticket
	3. Entry ticket functions as a basic access fee
	4. Revenue targets were met during the research period.
Partial Earmarking of Ticket Revenue for Revenue-Generating Sites	1. Breakdown of earmarking percentages is within the finance department's authority
	2. Ticket revenue is used to fund infrastructure maintenance, operations, and HR
	3. No specific allocation for conservation activities yet.
Site-Specific Tariff Setting Based on Location Characteristics	1. LHKP tariff is set high to limit private vehicles in sensitive areas
	2. Ontang-anting tariff is lower to encourage collective transportation
	3. Pricing considers revenue targets, external conditions, and competitors
	4. Tariff review is conducted annually.
Entry Ticket Collection Not Relevant at All Locations	1. Ticket revenue is monitored and audited daily
	2. Domestic/foreign visitor tariff differentiation based on exchange rate and purchasing power.
Tariff Setting Supported by Reliable Management and Accounting System	1. Tariffs are regulated in the GM Decree of PT Perhutani Alam Wisata Resorsis Business Area 2025
	2. Revenue deposit system is monitored and routinely audited
	3. Pricing emphasizes revenue target achievement and external conditions.

Source: Researcher's Data Processing, 2025

Ticket Pricing Principles (Manager’s Perspective)

Based on interviews conducted with informant FR, the following data were obtained:

Table 2. Summary of Academic Interview Findings

Indicator	Findings
Ticket Revenue as Supplementary Income, Not a Replacement for Primary Funding Sources	1. Nature tourism tickets reflect destination value as a basic access cost, not the sole funding source.
	2. Pricing considers natural beauty, accessibility, facilities, and conservation costs.
	3. Ticket revenue has not been able to independently cover all maintenance costs.
	4. State funding support is needed so conservation is not entirely borne by tickets. 5. Over-reliance on tickets risks reducing destination sustainability during visitor fluctuations.
Partial Earmarking of Ticket Revenue for Revenue-Generating Sites	1. A portion of ticket revenue should ideally be allocated for management and conservation.
	2. Managers do not have full authority in tariff setting as it is determined by the central government.
	3. Managers do not always know the pricing basis and proportion of conservation allocation.
	4. Ticket revenue often does not cover environmental maintenance costs.
	5. Funding adequacy can be observed from the physical condition of the area and visitor comfort.
Site-Specific Tariff Setting Based on Location Characteristics	1. Tariffs between destinations cannot be equalized due to differences in environmental characteristics and ecosystem sensitivity.
	2. Carrying capacity and ecological vulnerability are important components in tariff determination.
	3. Destinations with high vulnerability should have higher tariffs.
	4. Environmental maintenance and recovery costs are the main components of site-based pricing.
	5. Price reflects destination value that influences visitor behavior and appreciation.
	6. Tariff evaluation should be conducted periodically based on visitor numbers and environmental quality.
Entry Ticket Collection Not Relevant at All Locations	1. Inadequate ticket revenue potentially poses risks to conservation area management.
	2. The feasibility of tariff collection must consider the ticket's ability to support maintenance costs.

	3. At high-visitor destinations, ticket collection is still justifiable but still requires other funding sources.
Tariff Setting Supported by Reliable Management and Accounting System	1. Centralized pricing authority causes limited data access for field managers.
	2. Lack of tariff data transparency makes it difficult to evaluate conservation funding adequacy.
	3. Physical condition of the area, ecosystem stability, and visitor comfort are used as alternative indicators.
	4. Periodic evaluation and integration of quantitative and qualitative data are needed to ensure the tariff system supports destination sustainability.

Source: Researcher's Data Processing, 2025

Alignment Between Manager Pricing Practices and Academic Perspectives

This discussion aims to deepen the interpretation of findings and demonstrate their relevance to prior research, without diminishing or replacing the perspectives conveyed by the informants. The following table presents a comparative analysis referencing the Guiding Principles for Fee Policy in Nature-Based Tourism (NBT) by Laarman & Gregersen (1996):

Table 2. Summary of Academic Interview Findings

Indicator	Findings from SU (Manager)	Policy Framework	Findings from FR (Academic)	Analysis result
Ticket Revenue as Supplementary Income	Costs cover HR, maintenance, operations; additional optional services	PP No. 36/2024 regulates PNBPN based on area and ecological impact	Ticket has not covered full maintenance cost; state support needed	Real conservation costs not integrated into tariff; conservation allocation info entirely at central authority
Partial Earmarking of Ticket Revenue	Earmarking percentage detail is within finance department's authority; revenue funds maintenance, operations, HR; no specific conservation allocation	PP No. 36/2024 requires all PNBPN deposited to State Treasury	Earmarking transparency important for conservation sustainability and visitor trust	Disconnect between revenue collected and benefits felt by local managers
Site-Specific Tariff Setting	Transport tariff differentiation exists, but carrying capacity not quantitatively calculated	PP No. 36/2024 regulates PNBPN based on area and ecological impact	Carrying capacity and maintenance costs must be explicit in tariffs	Tariff does not reflect real conservation needs in the field
Entry Ticket Collection Relevance	WNI/WNA tariff differentiation; system monitored	PP No. 36/2024 regulates PNBPN based on area and	Collection feasibility must consider ticket's	Application requires contextual adjustment per

	and cost-effective	ecological impact	ability to support maintenance	location
Reliable Management & Accounting System	Tariffs regulated by GM Decree PT Perhutani 2025; detailed data not available at field level	PP No. 36/2024 sets PNBP formula centrally	Need for quantitative-qualitative data integration and periodic evaluation	System does not yet support tariff decisions based on real environmental data

Source: Researcher's Data Processing, 2025

This comparative analysis demonstrates that the ideal principles from international literature on fee policy in nature-based tourism are comprehensive and measurable; however, their implementation at Kawah Putih Ciwidey faces significant challenges. Of the five principles analyzed, four (ticket revenue as supplementary income, earmarking, site-specific tariff setting, and reliable accounting system) are considered too idealistic or inapplicable in the context of Kawah Putih Ciwidey. Only one principle can be applied adequately, though not yet optimally.

The main barriers creating the gap between ideal practice and real conditions in the field are the still-centralized structure of fund decentralization, limited transparency in resource allocation, the absence of a measurable formula for environment-data-based tariff setting, and a management information system not yet optimally integrated. Therefore, significant adaptation to local context, organizational structure, and funding policy is required to effectively implement these principles.

Conclusion

Based on the research findings, the following conclusions are drawn:

1. Perum Perhutani sets ticket prices based on operational costs through a formal mechanism with price differentiation by visitor category and mode of transportation. However, conservation costs have not been calculated as a separate line item and transparency in revenue allocation remains limited.
2. Academics emphasize that conservation-based ticket pricing must explicitly include environmental maintenance and recovery cost components, and requires sustainable funding support from the state.
3. Of the five principles analyzed, only one can be adequately applied. Key gaps include: the absence of conservation cost internalization, non-quantitative carrying capacity calculation, limited allocation transparency, centralized decision-making, and the lack of integration between environmental data and financial data.

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Competing Interests

The author(s) declare no competing interests.

Data Availability

The datasets generated during and/or analysed during the current study are not publicly available due ethics related to protecting the privacy and confidentiality of research participants but are available from the corresponding author on reasonable request.

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