

# Exploring Tourists' Landscape Preferences in Indonesia Through Keyword Analysis

1<sup>st</sup> Muhamad Ramdani Pamungkas  
*Tourism, Faculty of Economics and  
Business*  
*Sahid University*  
Jakarta, Indonesia  
[muhamad\\_ramdani@usahid.ac.id](mailto:muhamad_ramdani@usahid.ac.id)

2<sup>nd</sup> Endang Wulandari  
*Accounting, Faculty of Economics and  
Business*  
*Sahid University*  
Jakarta, Indonesia  
[wulandariendang12usahid@gmail.com](mailto:wulandariendang12usahid@gmail.com)

**Abstract**—This study examines tourists' landscape preferences in Indonesia through the analysis of descriptive words used to express perceptions of natural and urban environments. Using an exploratory qualitative approach, open-ended responses were collected from domestic and international tourists who described what they found appealing and unappealing in various landscapes. Text data were cleaned, coded, and analyzed using frequency counts and wordcloud visualization to identify dominant patterns.

The results reveal that natural landscapes are primarily associated with positive terms such as beautiful, green, water, mountain, and calm, indicating that visual harmony, natural elements, and tranquility are central to their appeal. Conversely, urban landscapes are linked to words like building, crowded, traffic, and residential, suggesting that the dominance of man-made structures and congestion reduces aesthetic appreciation. These findings confirm that tourists generally prefer open, natural, and visually balanced settings over dense urban environments. The study contributes to understanding how tourists linguistically express visual and emotional responses to landscapes, providing insights into the patterns of landscape appreciation within Indonesia's diverse tourism context. The results can guide destination managers in emphasizing natural features and improving urban environments to align with visitor preferences

**Keywords**— *landscape preference, tourist preference, urban landscape, natural landscape, wordcloud analysis*

## I. INTRODUCTION

Indonesia, as a tourism destination, is known for its diverse landscapes, from tropical beaches and lush mountains to historic cities and urban skylines. Tourists' perceptions of these landscapes, whether natural or urban, play a crucial role in shaping their overall travel experience. The scenery and

environmental context of a destination can strongly influence visitors' emotions, satisfaction, and even their future travel behavior [1]. Prior studies have noted that natural environments often evoke positive feelings (such as awe, relaxation, or happiness) that enhance tourist satisfaction [1]–[3], while built environments can offer cultural excitement but may also introduce challenges like crowding [4]. Understanding landscape perception is therefore highly relevant for tourism planning, as it helps explain what attracts visitors and how different settings fulfill their visual or emotional expectations [5].

One way to uncover tourists' landscape preferences is by analyzing the words they use to describe their experiences. In this regard, word cloud analysis offers a useful method to distill and visualize common themes from textual data [6]. Word clouds (or tag clouds) are graphical representations of word frequency that give greater prominence (larger size) to words appearing more often in a source text. By converting open-ended comments or reviews into a word cloud, researchers can quickly see which keywords stand out, making it easier to identify dominant landscape features or emotions expressed by tourists. This approach has gained traction as an intuitive way to summarize qualitative data: the prominent words in a cloud effectively highlight what respondents talk about most frequently, revealing insights into their preferences and impressions [7]. For example, if words like “beautiful,” “green,” or “relaxing” appear most prominently in tourists' comments about a destination, one can infer that natural beauty and tranquility are central to their positive experience. Wordcloud analysis thus provides a visual snapshot of tourists' collective perceptions, which can complement traditional qualitative coding and deeper content analysis.

This study applies a keyword-based wordcloud approach to explore how tourists perceive natural versus urban landscapes in the Indonesian tourism context. The aim is to identify differences in the descriptive keywords tourists use for natural landscapes (e.g. beaches, mountains, forests)

compared to urban landscapes (e.g. cities, townscapes, built attractions), and to interpret what these patterns reveal about tourists' visual responses. By addressing these questions, the study seeks to shed light on landscape perception in tourism and provide practical insights. Ultimately, understanding these keyword trends can help destination managers and marketers tailor their destination design and marketing strategies to align with what visitors' value most in natural and urban settings.

## II. METHOD

This study employed an exploratory qualitative approach to investigate tourists' landscape preferences in Indonesia. The subjects were domestic and international tourists who provided open-ended written responses about their experiences with different environments. Participants were asked to describe, in their own words, what they found appealing in a landscape they enjoyed and what they found unappealing in a landscape they disliked. To capture a broad spectrum of settings, examples were drawn from natural landscapes (e.g., beaches, waterfalls, mountains) and urban landscapes (e.g., city centers, cultural heritage sites). The research procedure began with the collection of textual responses. All answers were compiled into a dataset and prepared for analysis through text cleaning. Stop words and filler terms were removed, spelling errors corrected, and synonymous expressions grouped to ensure consistency in meaning. Responses in Indonesian and English were maintained in their original form, with translation applied where necessary to align equivalent terms.

The data were then analyzed in two stages. First, responses were coded to extract descriptive words related to landscape features and emotional impressions (e.g., mountain, crowded, clean, beautiful, historic). These words were tallied to determine frequency, with results separated by landscape type (natural vs. urban). This process allowed dominant themes to emerge and ensured that variations of the same idea (e.g., calm, peaceful, quiet) were considered together. Second, the frequency data were visualized using wordclouds. In these visualizations, word size corresponded to frequency, making it possible to quickly identify the most common descriptors associated with each type of landscape. The combined coding and visualization process provided a clear and replicable way to capture tourists' perceptions, offering insights into the specific keywords most often used to describe appealing and unappealing aspects of Indonesian landscapes. These terms were grouped under the main argument categories to produce a word cloud that illustrates the most frequently mentioned features for the most and least preferred landscapes. This type of assessment and methodology has been used in several research like Moura [8] analysed a preference for images of the savanna landscape in Brazil, El Ghafraoui [9] analysed a preference for images of the dryland landscapes in Almeria Province, Spain, and another research by Chang [10] that utilize social media and code the text to find most used keyword in landscape photography.

## III. RESULTS AND DISCUSSION

Image analysis was conducted as a visual testing method to evaluate how evolutionary landscape features influence

tourist preferences. The main objectives of this analysis were to understand the extent to which visual aspects play a role in determining landscape choices and to identify the specific elements that were most memorable to respondents based on their descriptions of the images presented. The selection of images was carried out through a curation process based on an initial assessment before being established as the main part of the research instrument. In this initial stage, eight sets of images were compiled, each consisting of four images representing different types of landscape but with similar features. The images most selected by respondents in the initial assessment stage were then used as the main images in the set of research questions.

This research includes three sets of questions. The first set focuses on natural landscapes, the second set explores preferences for urban and cultural landscapes, while the third set compares natural landscapes with urban landscapes. Figure 1 is the set of images used in the questionnaire for this study. The questions presented on the questionnaire contain a choice of images that respondents select as 'Appealing' or 'Not Appealing' and a brief description of why they chose the image.



FIGURE 1. QUESTIONNAIRE IMAGE SETS

In Set 1, Image 2 was chosen by 58 respondents (52.3%) as the most appealing image. This image shows a mountain view with a lake in the surrounding area. The second most popular choice was Image 4, which shows a waterfall, with 23 respondents (20.7%) choosing it. Meanwhile, the least chosen image was Image 3, which shows a beach with houses in the surrounding area. The pattern is in line with the results in the Not Appealing category. Image 3, which received the fewest votes in the Appealing category, was the most selected image in the Not Appealing category. Conversely, Image 2, which was the most selected image in the Appealing category, was the least selected image in the Not Appealing category. A similar pattern is also found in Sets 2 and 3. Images with the highest votes in the Appealing category tend to have the lowest votes in the Not Appealing category, and vice versa. This shows consistency in respondents' preferences for image choices, although there are

variations in the percentage of their choices. This is shown more clearly in Table 1.

TABLE I. RESPONDENT'S IMAGE RESULT

PICT	Set 1		Set 2		Set 3		Set 1		Set 2		Set 3	
	Appealing		Not Appealing		Appealing		Not Appealing		Appealing		Not Appealing	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Pict 1	21	18.9	19	17.1	82	73.9	8	7.2	7	6.3	24	21.6
Pict 2	58	52.3	9	8.1	10	9.0	21	18.9	70	63.1	5	4.5
Pict 3	9	8.1	75	67.6	6	5.4	44	39.6	32	28.8	9	8.1
Pict 4	23	20.7	8	7.2	13	11.7	38	34.2	2	1.8	73	65.8
<b>Total</b>	<b>111</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>	<b>111</b>	<b>100.0</b>

Source: Own data collection, 2025

Furthermore, a word cloud analysis was conducted to understand how respondents describe their reasons for selecting an image as appealing or not appealing. The resulting word cloud is an accumulation of all images in a set, not just the images with the highest level of appealing or not appealing. As such, this result represents the general trend within a set. In Set 1, some of the most frequently occurring words in the appealing category are "beautiful", "colour", "water", "mountain", and "green". Although they appear in various contexts, these words reflect the visual aesthetic aspects that respondents pay attention to when selecting images. The words "water" and "mountain" as landscape elements appear to be important factors in respondents' landscape preferences. This is in line with the Landscape Aesthetics theory, which emphasises the role of the source of water element in the perception of landscape beauty[11]. In addition, the words "colour" and "green" indicate that colour composition is a crucial aspect in visual aesthetic assessment. In Set 2, the word "colour" again emerged as one of the most frequently mentioned words in the appealing category. This could be an indicator that colour combination does play an important role in the visual aesthetics of the landscape. The word "sunset" also appears in this category, further reinforcing that the aspect of colour, especially in relation to natural lighting, is a contributing factor to the appeal of the landscape[12]. Meanwhile, in Set 3, the words "mountain" and "water" were again the most frequently occurring words in respondents' descriptions of images they found appealing.

In the not appealing category in Set 1, the most frequently occurring words were "beach", "residential", "crowded", "area", and "building". Although this word cloud reflects the entire set, the words that appear are strongly related to Picture 3, which features a beach with residential neighbourhoods. The words "residential" and "building" indicate that the presence of buildings is perceived to reduce the attractiveness of the landscape for most respondents. This pattern also appears consistent in Set 2 and Set 3, where the word "building" frequently appears in the not appealing category. This indicates that the presence of buildings and

elements of urbanisation can reduce the aesthetic appeal of the landscape for respondents. More details related to the word cloud can be seen in table 2 and for words that appear frequently are in table 3 The table presents only five words that appear frequently in each set to minimise the display.

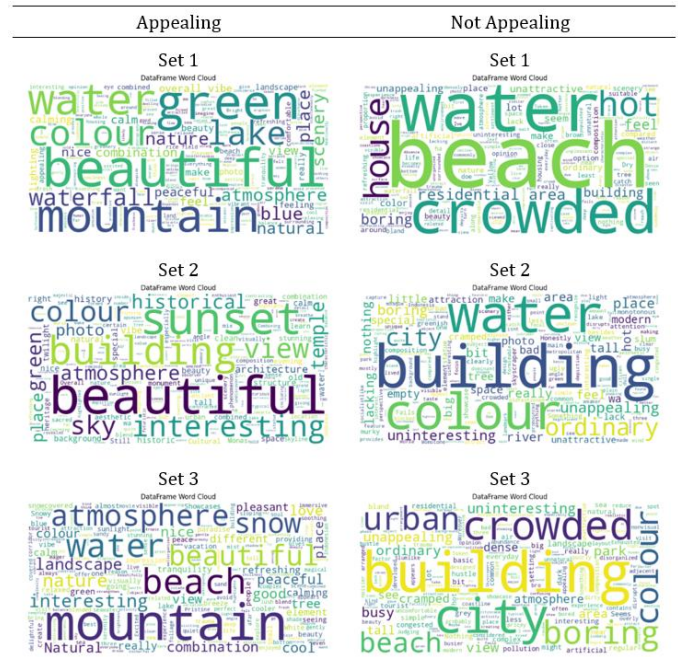


FIGURE II. IMAGE'S WORDCLOUD

TABLE II. IMAGE'S WORD FREQUENCY

	Picture 1		Total	%	Picture 2		Total	%	Picture 3		Total
	Word	Freq.			Word	Freq.			Word	Freq.	
<b>Appealing</b>	beautiful	17	3.2	beautiful	15	3.3	mountain	25			
	colour	13	2.5	building	12	2.7	water	10			
	water	13	2.5	sunset	12	2.7	beach	10			
	mountain	12	2.3	colour	11	2.5	atmosphere	8			
	green	10	1.9	interesting	10	2.2	landscape	7			
<b>Unappealing</b>	beach	10	2.5	building	14	4.1	building	14			
	residential	9	2.3	water	11	3.2	city	13			
	crowded	9	2.3	colour	10	3	crowded	9			
	area	8	2	ordinary	8	2.3	urban	6			
	building	7	1.8	city	7	2	colour	6			

Source: Analysis. 2025

The pattern identified in the wordcloud results is further supported by the findings from the social media analysis. While the word frequencies in Sets 1–3 illustrate how respondents describe appealing and unappealing landscapes in direct assessments, the following results reveal how digital media exposure shapes these same preferences in everyday decision-making. As shown in Table 4, respondents expressed a strong belief in the credibility and influence of social media content marketing, with a mean score of 4.06 (SD = 0.834) for trust and 4.14 (SD = 0.899) for influence. This indicates that tourists not only recognize

the persuasive nature of social media content but also allow it to affect their destination choices. Social media therefore functions as both a source of visual inspiration and a determinant of perceived landscape attractiveness.

TABLE III. SOCIAL MEDIA CONTENT BELIEVE

Social Media Content Believe	Mean	Std. Deviation
Believe in Social Media Content Marketing	4.06	.834
Influence of Social Media Content Marketing	4.14	.899

Source: Analysis, 2025

TABLE IV. SOCIAL MEDIA CONTENT TYPE

Social Media Content Type	N	Percentage
Natural landscapes	96	86.5%
Urban cityscapes and architecture	40	36.0%
Cultural and historical experiences	54	48.6%
Gastronomy and local cuisine	59	53.2%
Adventure and outdoor activities	20	18%
Wellness and relaxation	9	8.1%
Festivals and events	16	14.4%
Wildlife and nature experiences	46	41.4%
Family-friendly activities and attractions	30	27%

Source: Analysis, 2025

Further details in Table III and IV highlight the types of content that most appeal to viewers. The majority of respondents (86.5%) reported that natural landscape content, such as beaches, mountains, and lakes as the most attractive category on social media. This reinforces the earlier wordcloud findings that natural elements, particularly those involving water and greenery, dominate aesthetic appeal. Meanwhile, urban imagery (cityscapes and architecture) was preferred by only 36% of respondents, suggesting that built environments are less visually engaging in digital marketing contexts. Cultural and gastronomic content also scored highly, selected by 48.6% and 53.2% of respondents, respectively, reflecting an interest in local authenticity and sensory experience beyond the purely visual dimension. Other categories such as adventure, wellness, and festivals recorded lower percentages, indicating that while these experiences contribute to tourism diversity, they are not the most visually compelling content in social media environments. Interestingly, wildlife experiences (41.4%) and family-oriented activities (27%) still hold niche appeal, suggesting segmentation opportunities for specific audiences. From an aesthetic and psychological perspective, these findings affirm that the attraction toward natural settings is not only socially shaped but also deeply rooted in human evolutionary preferences [13]–[15]. The consistent dominance of natural landscapes, both in direct evaluations and in digital exposure illustrates a fundamental visual bias toward environments rich in water, vegetation, and open space. This may reflect an inherited inclination toward scenes associated with safety, sustenance, and exploration. Conversely, the moderate appeal of cultural and gastronomic

imagery suggests a growing appreciation for social and experiential richness, which complements the natural aesthetic foundation.

#### IV. CONCLUSIONS

This research achieved its objective of identifying tourists' landscape preferences based on descriptive language analysis. The study discovered that natural landscapes consistently elicit positive responses characterized by references to *water*, *greenery*, and *mountains*, while urban landscapes evoke more negative associations, particularly with *crowding* and *buildings*. These findings suggest that tourists' aesthetic appreciation is strongly influenced by the presence of natural elements and a sense of openness. By analyzing tourists' own words, destination planners can better identify the visual and environmental aspects that shape their experiences.

#### REFERENCES

- [1] J. Jiang, B. W. Gao, and X. Su, "Antecedents of Tourists' Environmentally Responsible Behavior: The Perspective of Awe," *Front. Psychol.*, vol. 13, no. March, pp. 1–16, 2022, doi: 10.3389/fpsyg.2022.619815.
- [2] C. Gezhi and H. Xiang, "From good feelings to good behavior: Exploring the impacts of positive emotions on tourist environmentally responsible behavior," *J. Hosp. Tour. Manag.*, vol. 50, no. December 2021, pp. 1–9, 2022, doi: 10.1016/j.jhtm.2021.11.017.
- [3] Á. Rodrigues, S. M. C. Loureiro, and G. Prayag, "The wow effect and behavioral intentions of tourists to astrotourism experiences: Mediating effects of satisfaction," *Int. J. Tour. Res.*, vol. 24, no. 3, pp. 362–375, 2022, doi: 10.1002/jtr.2507.
- [4] Z. Li, J. H. Lee, L. Yao, and M. J. Ostwald, "Impact of built environments on human perception: A systematic review of physiological measures and machine learning," *J. Build. Eng.*, vol. 104, no. February, p. 112319, 2025, doi: 10.1016/j.job.2025.112319.
- [5] S. Y. Ren and X. Chen, "Emotional and semantic analysis of landscape elements in heritage parks: insights from social media data on visitor perception," *Built Herit.*, vol. 9, no. 1, 2025, doi: 10.1186/s43238-025-00198-9.
- [6] C. A. DePaolo and K. Wilkinson, "Get Your Head into the Clouds: Using Word Clouds for Analyzing Qualitative Assessment Data," *TechTrends*, vol. 58, no. 3, pp. 38–44, 2014, doi: 10.1007/s11528-014-0750-9.
- [7] E. Herold, M. Pöckelmann, C. Berg, J. Ritter, and M. M. Hall, "Stable Word-Clouds for Visualising Text-Changes Over Time," *Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics)*, vol. 11799 LNCS, no. August, pp. 224–237, 2019, doi: 10.1007/978-3-030-30760-8\_20.
- [8] J. M. B. Moura, W. S. F. Júnior, T. C. Silva, and U. P. Albuquerque, "The influence of the evolutionary past on the mind: An analysis of the preference for landscapes in the human species," *Front. Psychol.*, vol. 9, no. DEC, pp. 1–13, 2018, doi: 10.3389/fpsyg.2018.02485.
- [9] Y. El Ghafroui, C. Quintas-Soriano, M. Pacheco-Romero, B. E. Murillo-López, and A. J. Castro, "Diverse values of nature shape

- human connection to dryland landscapes in Spain,” *J. Arid Environ.*, vol. 216, no. September, 2023, doi: 10.1016/j.jaridenv.2023.105023.
- [10] C. chen Chang *et al.*, “Social media, nature, and life satisfaction: global evidence of the biophilia hypothesis,” *Sci. Rep.*, vol. 10, no. 1, pp. 1–9, 2020, doi: 10.1038/s41598-020-60902-w.
- [11] S. Gungor and A. T. Polat, “Relationship between visual quality and landscape characteristics in urban parks,” *J. Environ. Prot. Ecol.*, vol. 19, no. 2, pp. 939–948, 2018.
- [12] H. Nasiri, K. Kirillova, and P. Wassler, “Beyond beauty: Ugly and borderline tourism aesthetic experiences,” *Ann. Tour. Res.*, vol. 105, no. December 2023, 2024, doi: 10.1016/j.annals.2023.103703.
- [13] S. Kaplan, “Aesthetics, affect, and cognition: Environmental Preference from an Evolutionary Perspective,” *Environ. Behav.*, vol. 19, no. 1, pp. 3–32, 1987, doi: 10.1177/0013916587191001.
- [14] J. Tooby and L. Cosmides, *The Theoretical Foundations of Evolutionary Psychology*, no. June. 2015. doi: 10.1002/9781119125563.evpsych101.
- [15] L. Al-Shawaf, D. Conroy-Beam, K. Asao, and D. M. Buss, “Human emotions: An evolutionary psychological perspective,” *Emot. Rev.*, vol. 8, no. 2, pp. 173–186, 2016, doi: 10.1177/1754073914565518.