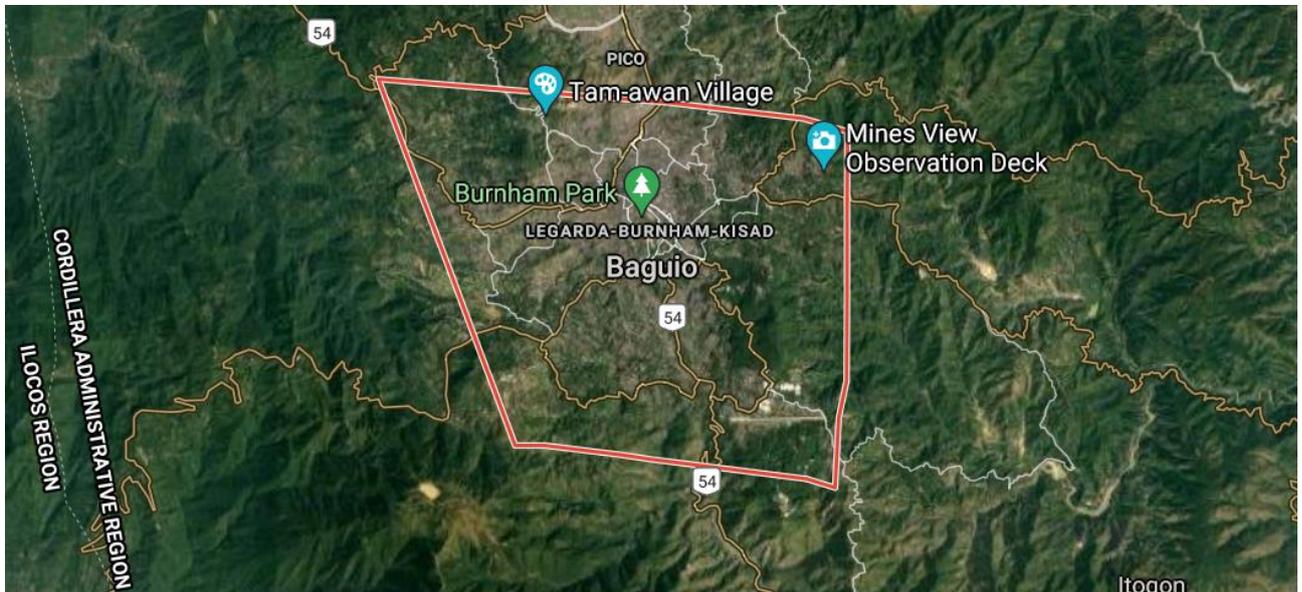


# Pining for Baguio Greens: the Benguet Pine's Relevance in the Public Perception of Green Open Spaces in Baguio City



**Figure 1:** A Google Maps satellite view of Benguet shows that the extents of Baguio City lies in an area that is less green than its surroundings. Image taken from Google Maps accessed June 10, 2021.

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## Abstract

Known for being the City of Pines, Baguio has created a reputation as recreation refuge from the hustle and bustle of Metro Manila and other neighboring urban centers. But because of its cool climate and popularity as a tourist destination, Baguio in itself is deluged with impending problems of urbanity and development. Spaces that were previously green are continuously converted into built areas.

A few years ago, an issue arised regarding the conversion of a popular mall's open space planted with the fully grown specimens of Baguio's tree symbol – the Benguet pine or *Pinus kesiya*. The space was to be converted into an additional building wing, which drew strong reactions from concerned residents and environmental groups. The conversion was conducted and that resulted to mixed reactions regarding the importance of the pine tree in Baguio's remaining open spaces.

The research explores the perception of Baguio space users on the state of its urban green open spaces and qualify the importance of the symbolic Benguet pine's presence in urban green, hence this research aimed to know more about this matter.

First, some architects and other design professionals were consulted as prequalification to enumerate which Baguio open spaces are perceived as green open space. They were also inquired which of these spaces exhibited the most distinct presence of the iconic pine tree. Ten parks and public spaces were short listed.

A survey regarding the 10 prequalified Baguio City open spaces and the Benguet pine was then formulated and disseminated to people who are familiar with Baguio, mostly residents, through an online platform. Results showed which open spaces are popularly visited and perceived green by users. The same survey also indicated that the most popular and green perceived public open spaces are also said to have the most visible presence of the Benguet pine tree, indicating that in the public's perception, the Benguet pine's presence is particularly relevant in the major green spaces around Baguio City.

Keywords: Baguio City, Benguet pine, *Pinus kesiya*, Baguio green urban space.

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## I. Introduction

### A. Background

Baguio was named the summer capital of the Philippines which dates as early as the American era. Even if it is already established as a city, the remoteness in a mountain setting has presented Baguio with a unique mixture of urban conveniences in a peri-urban environ because of the crisp mountain air and the surrounding greenery. As an area of urban and rural polarity, the presence of green open space plays a crucial role in determining the environmental resilience of the city as peri-urban space, especially now that urbanity is taking the upper edge resulting to conversion of previous green spaces to developed spaces and housing.

Further, Baguio - being popular as the City of Pines - harbors the dilemma of maintaining this identity. A previous issue concerning a major mall converting a Benguet pine grove on its property into a parking building drew much clamor from citizens to stop the move, but eventually the falling of the mentioned trees (the trees were in a prominent area of the CBD and are historic in nature) pushed through. The incident drew sufficient public attention but eventually it fizzled out.



**Figure 2:** A closer satellite view reveals that Baguio City has more developed areas than green coverage. Image taken from Google Maps accessed June 13, 2021.

Satellite views of Baguio could easily show how the city expanse is losing green surface. In a social media videographer Erol Avanoğlu's aerial drone shots, one could view Baguio City in pandemic times. Viewers could easily get amused but at the same time alarmed about the apparent congestion happening in the Baguio central business area as well as the residential areas located at the fringes.



**Figure 3:** View showing Baguio City development extending to the previously green covered watershed areas - taken during the pandemic time 2020. Image is a screenshot taken from Erol Avanoğlu's social media video post on YouTube.

Which brings us to the question whether the Baguio open space users are aware of the diminishing presence of greens in their city. Moreover, do Baguio residents and visitors still significantly perceive the native Benguet pine's presence in the green spaces around Baguio City?

### B. Research Problem and Significance

Benguet pine or *Pinus kesiya* is a species that is native to the Cordilleras in the Philippines. In a past inquiry with the late biologist Danny Balete who performed zoologic but also botanic explorations in the Cordilleras, he said that the *Pinus kesiya* is considered a pioneer species, thriving in disturbed areas of the mountains at 700 masl. Northwestern University Botanic Garden Director Michael Calaramo also confers that the species extends to the Ilocos parts of the Cordilleras. The so called 'pine forests of Luzon' appear in the dorsal parts of the mountain ranges interspersing with diverse broadleaved species forest. The website One Planet theorizes that the Luzon pine forests thrive in landscapes disturbed by seasonal fire and human activity.

The Benguet pine has a typical pine tree structure (a separate evaluation of its aesthetics was performed by the research proponent in his graduate thesis). The tree would have been visible when Baguio was declared as a hill station by the Americans in the early 1900's. Its similarity to American pines and the familiarity of monocrop pine landscape - coupled with the cool mountain climate - would have contributed greatly in establishing the city as a summer refuge.



**Figure 4:** image shows that the *Pinus kesiya* is an attractive tree and is heavily used in some of Baguio's establishments like the Baguio Country Club. Picture taken by proponent in February 2010.



**Figure 5;** The controversial Benguet pine grove behind the popular local mall was believed to be remnants of the pine trees planted in the landscape of Baguio's once famous Pines Hotel. The grove was converted into the mall's building extension. Image taken by the research proponent in February 2010.

Today the pine tree is still a fixture in the region. In five different trips from 2010 to 2015 to the Cordilleras and Baguio, the researcher observed that the tree is still visible in traversing the mountains and natural landscapes. But Baguio urban areas previously seen to have been covered with pine in 2010 were observed gone in 2015.

The presence of the pine contributes to the identity of Baguio as the City of Pines. But recent Baguio thrust of development and urbanism brings us to question how the tree species is valued in the remaining green open spaces in the city.

**Main Problem:**

How important is the presence of the Benguet pine in the perception of green open spaces in Baguio City?

**Sub-Problems:**

- Do the Baguio residents still recognize or perceive the presence of Benguet pine in the city?
- Do open space users perceive the presence of the Pine Tree as relevant?
- What are the aspects of the Benguet pine presence that are important in the perception of open spaces in Baguio City?
- Do Baguio residents still consider the Benguet pine as relevant in the perception of the identity and enjoyment of green open space?

**D. Goals and Objectives**

Determine the relevance of Benguet pine in the perception of existing green open spaces in Baguio City

The study will optimistically achieve these objectives:

1. Determine whether the Baguio space users still recognize or perceive the presence of Benguet pine in the city
2. Evaluate whether the open space users perceive the presence of the Pine Tree as relevant

3. Determine the aspects of the Benguet pine presence that are important in the perception of open spaces in Baguio City
4. Determine whether the Baguio space users still consider the Benguet pine as a relevant component of their green open spaces

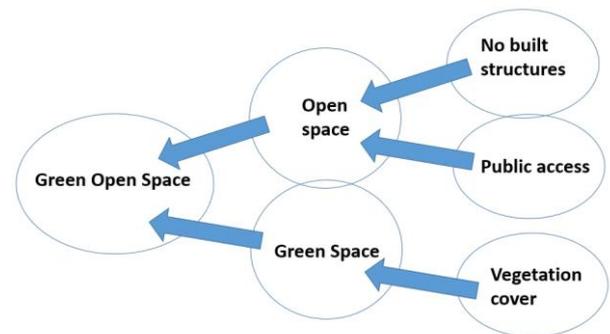
**II. Research Method**

**A. Definition of Green Open Space**

The research will make use of the U.S. New England Environmental Protection Agency website definition for the green open spaces. The proponent made the same assumption in a previous research about green open spaces in Quezon City because of the absence of a defined local parameter for green open space.

According to the United States Environmental Protection Agency, Open space would have these characteristics, area has no building or built structures, and it has public accessibility. It states that open space could be classified as green space.

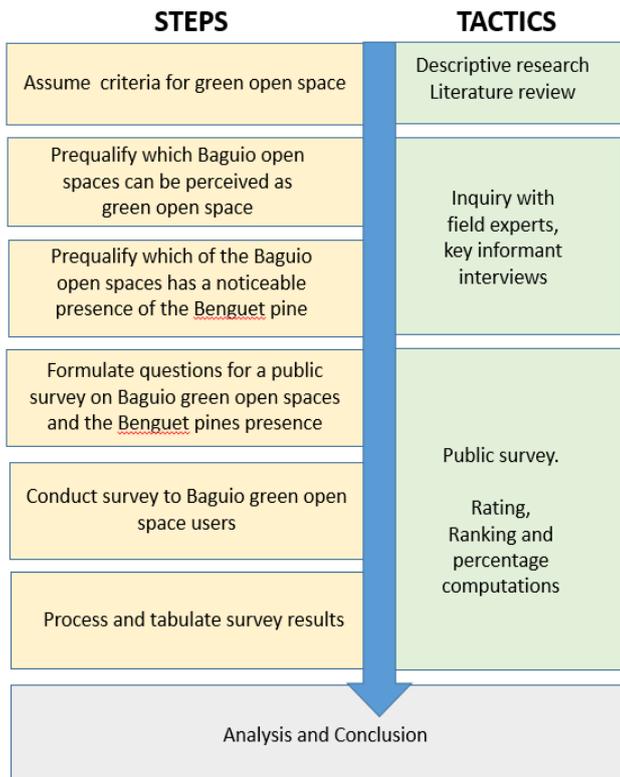
The same website defines green space as space that is covered with greenery may it be trees, shrubs, grasses or any vegetation.



**Figure 6:** the U.S. New England Environmental Protection Agency website indicates the following criteria in defining green open space.

**B. Methodology**

The research was done following these steps:



**C. Scope and Limitations**

Because of the pandemic and travel restrictions, the research was designed to accommodate methods, tactics that could be carried out using remote means. Visit to Baguio sites were deemed not possible thus understanding of the concerned spaces were done via map analysis. The study also relied much on user perception which is dependent on participant reactions. Soliciting responses were done through online mode. Interviews were also done virtually via Messenger and Zoom applications.

**III. Research Proper**

**Step 1 - Introduce the criteria the research will use as green open space**

The proponent of the research has previously explored green open space perception. For this study, the definition of green open space will be based on the U.S. New England Environmental Protection Agency website.

**Step 2 - Prequalify which Baguio open spaces can be perceived as green open space**

For this step, an inquiry with a small group of design professionals and city administrators was performed. Thirteen individuals (which include architects and planners but also environmentalists and city officials) were separately consulted (group interview was difficult due to pandemic restrictions). The definition based on step 1 was

presented to each participant as parameter for prequalification.

A list of popular and major parks and open spaces around Baguio City was prepared and also presented to these experts. The initial list included 11 places listed in travel websites. Each participant qualified which of the spaces should be included as green open space. As a collective response, one attraction was omitted because it is geographically not located in Baguio City. Another 10 open spaces were suggested to be included into the list for testing. 20 were included in total.

**Step 3 - Prequalify which of the Baguio open spaces has a noticeable presence of the Benguet pine**

The same places listed in Step 2 were also prequalified with the same experts whether the spaces have Benguet pine tree presence. With varying responses it was decided that these including the additional mentioned will be included in testing for the succeeding steps.

**Step 4 - Formulate questions for a public survey on Baguio green open spaces and the Benguet pines presence in Baguio and the green open spaces**

To get a wider spectrum of responses from open space users, a public survey was planned to be conducted. Questions for the survey included the following items:

- Determine whether people view or see Baguio as having enough green open spaces - by response percentage
- Qualify which of the green open spaces can be perceived as essential by users - by ranking survey responses
- Qualify which of the green open spaces is perceived to have noticeable presence of the Benguet pine - by ranking the survey responses
- Determine if the Benguet pine is still noticeable and relevant around Baguio city and in its green open spaces. - by response percentage
- Determine which trait of the Benguet pine is perceived relevant by Baguio space users - participant enumeration

**Step 5 - Conduct survey to Baguio green open space users**

The survey was conducted through online dissemination with the help of Baguio correspondents and online contacts. Survey was conducted using Google Forms but disseminated through Facebook Groups and Messenger. The online survey was pretested with 10 initial respondents and consulted with research adviser.

The actual survey conducted in a week's time was responded by 144 people from different occupations and backgrounds.

Sampling garnered respondents aged 18 to 63 years old. Because of the connectivity limitations presented by the pandemic, the research was able to reach more of the 18 to 25 years old range (55% of respondents), mostly students, as the age bracket is more accessible and knowledgeable

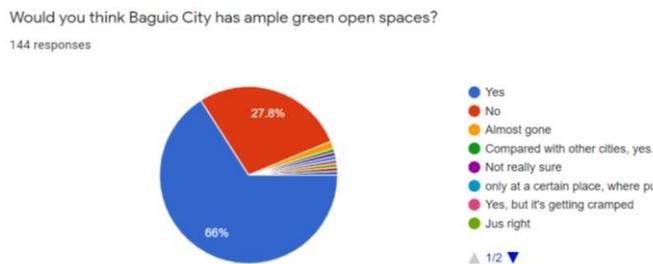
with internet use. But this was deemed okay because a significant number of Baguio space users especially during pandemic are in this age range.

The study was aimed towards both residents and visitors. The survey was responded by 55 percent Baguio residents. The remaining 45 percent claimed that they are not residents but are familiar with the city's open spaces. Study reached an almost equal ratio of male and female respondents.

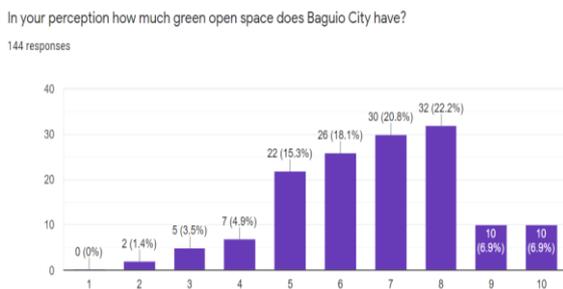
**Step 6 – Process and tabulate survey results**

Tabulation was done also using Google Forms. Results are as follows:

**Item 1:** Determine whether people view or see Baguio as having enough green open spaces. This was performed by getting the response percentage in which 66 percent responded yes while close to 28 percent responded no.

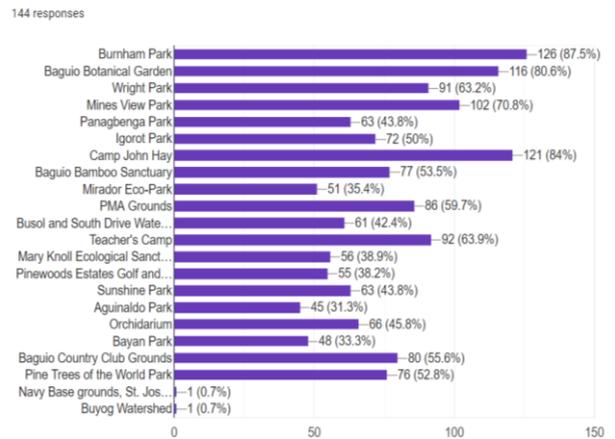


Significantly in a range of 0 to 10 with 0 being not visible and 10 being very visible, more people responded saying Baguio has 5 to 8 rating of having visible green open spaces.



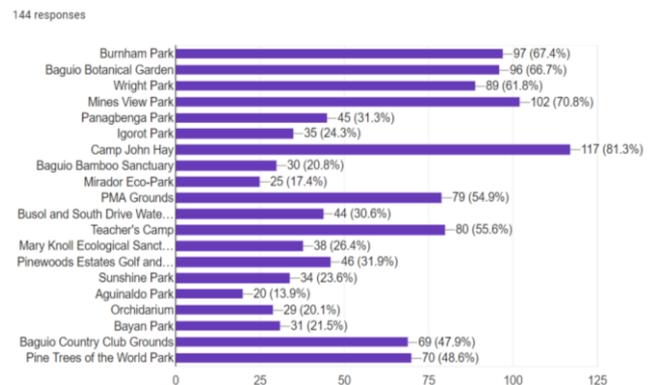
**Item 2:** Qualify which of the green open spaces can be perceived as essential by users – obtained by ranking the survey responses. Burnham Park appears to be the top essential green open space, followed respectively by Camp John Hay, Baguio Botanical Garden and Mines View Park. Bayan Park and Aguinaldo Park are the least mentioned of the prequalified green open spaces.

Which of the following green open spaces would you consider as essential to Baguio as an urban space? You may tick several boxes.



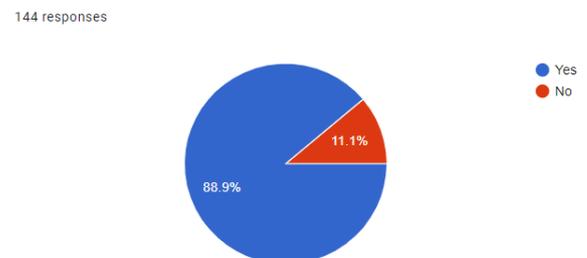
**Item 3:** Qualify which of the green open spaces is perceived to have noticeable presence of the Benguet pine – obtained by ranking the survey responses. Camp John Hay is listed as top open space to exhibit Benguet pine presence followed by Mines View Park, Burnham Park and Baguio Botanical Garden.

Which of the following green open spaces around Baguio City you could consider as having a good presence of the Benguet Pine? Several answers allowed.



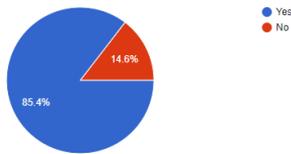
**Item 4:** Determine if the Benguet pine is still noticeable and relevant around Baguio city and in its green open spaces. This was obtained using response percentage. Around 89 percent of respondents claimed they are familiar with the Benguet pine.

Are you familiar with the Benguet Pine?

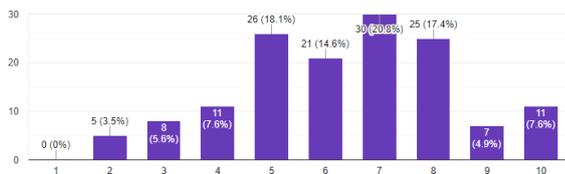


85.4 percent said that they could still notice the presence of the Benguet pine around Baguio City. In a scale of 0 to 10 for Benguet pine visibility around Baguio city, significant number of respondents consider it at 5 to 8 rating.

Can you still notice the presence of the Benguet Pine around Baguio City?  
144 responses

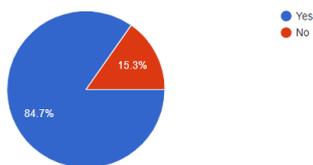


In your perception how visible is the Benguet Pine around Baguio?  
144 responses



Around 84.7 percent of respondents stated they could still notice the Benguet pine in the green open spaces around Baguio City.

Can you still notice the presence of the Benguet Pine around green open spaces in Baguio City?  
144 responses



**Item 5:** Determine which trait of the Benguet pine is perceived relevant by Baguio space users. Participants enumerated their answers.

The following are the following traits that were enumerated as important

1. Place Identity
2. Important for promotion of culture and legacy
3. Provides fresh air and better oxygen levels
4. Provides shade and shelter for heat
5. Provides greenery and aesthetics to the city
6. Helps control air pollution
7. Carbon sequestration
8. Ambience and character
9. Ecological symbol and importance
10. Pine smell
11. Presence of pine cones
12. Prevents soil erosion
13. Helps control climate change
14. Indicator of the healthy nature of Baguio
15. Historical significance

16. Enhances property value

17. Familiarity to residents and tourists

## IV. Analysis and Conclusion

Based on the results garnered we are to analyze and answer the issues that were raised.

Do the Baguio residents still recognize or perceive the presence of Benguet pine in the city? Based on the results, the respondents still recognize and perceive the presence of the Benguet pine around the city.

Do open space users perceive the presence of the Pine Tree as relevant? A good significant percentage of respondents claimed that the presence for them is relevant.

What are the aspects of the Benguet pine presence that are important in the perception of open spaces in Baguio City? There are several traits and factors that were raised and mentioned. But the most frequently cited was for place identity and cultural significance, followed by the ecological and the aesthetic relevance of the tree.

Do Baguio residents still consider the Benguet pine as relevant in the perception of the identity and enjoyment of green open space? The limited time and resources for this research have lightly touched on this matter. It however laid grounds to connect user perception of the open green spaces with the presence of the Benguet pine. Further examination using other methods is still required to confirm this item. It is recommended for future research undertakings on the subject.

Ultimately, how important is the presence of the Benguet pine in the perception of green open spaces in Baguio City?

It is important to note that in qualifying the green open spaces around Baguio City, the four top mentioned spaces are also the four spaces that exhibit the best presence of the Benguet pine. It will be interesting for further studies to check if there is a correlation between these results.

We might not answer the main problem thoroughly yet but it is important to note that respondents have indicated in their answers that they deem important the presence of green open space around Baguio city. The research also learned that the presence of the Benguet pine in the city, regardless how noticeable it is, is presently considered as relevant by respondents.

The respondents listed several important traits of the Benguet pine, where the top answer is establishing place identity. This enumeration list could be a good basis to study further the Benguet pine's presence and saliency in Baguio and its contribution to place identity.

## Acknowledgements

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