

## Research article

# Using Green Open Spaces to Support Campus Academic Activities

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## Abstract.

Green open space has many advantages, including acting as an effective air filter, maintaining groundwater availability, and preserving flora and fauna. Furthermore, green open spaces can provide direct benefits to users such as beauty and a sense of comfort, which can help to support the academic activities of students, lecturers and employees. The goal of this study was to determine the level of comfort with green open spaces on the IAIN Kendari campus and to provide information to students about how to use them to support student academic activities. The service project began with a Google Form survey to determine the academic community's perception of the contribution of green open spaces to IAIN Kendari's academic activities, which was completed by 120 IAIN Kendari students. The findings indicated that the campus green open spaces were perceived as comfortable. The next activity was a webinar on using green open spaces to support academic activities, in which mentoring was provided.

**Keywords:** green open space, academic activities, IAIN Kendari

## 1. Introduction

Green Open Space is an elongated area/path and cluster, where its use is more open, a place to grow plants, both those that grow naturally or intentionally planted. Meanwhile, according to Hakim[1], Green Open Space is part of the open space filled with plants, growth, and vegetation to support the direct or indirect benefits generated by the green open space. Therefore, green open space consists of public green open space and private open space.

Based on the ideal criteria for providing Green Open Space as regulated in the Spatial Planning Law Number 26 of 2007, the proportion of green open space in urban areas is 30%, and the site is. The proportion consists of 20% public green open space and 10% private green open space. In contrast, the use of green open space can be seen based

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on its functions, namely intrinsic functions (ecological functions) and extrinsic functions, which include socio-cultural, economic, and aesthetic functions [2]. To fulfill the green open space, all parties must contribute, especially public facilities such as office areas, housing estates, educational areas, and other public facilities. It should be realized that the importance of space and land planning by providing sufficient green open space so that the development of the built area can run in harmony, harmony, and balance [3].

About the spatial plan, the position of green open space is an open space that is planned in an area composed of green open space and non-green open space. Green open space has several functions, including ecological functions. Green open space is expected to improve groundwater quality, prevent flooding, reduce air pollution, and support microclimate regulation. The socio-cultural function, green open space, is expected to create space for social interaction, recreational facilities, and a marker (*teenager/landmark*) of the area. Furthermore, the aesthetic function, Green Open Space, is expected to increase the value of the beauty and comfort of the site through the existence of parks and green lines as well as the economic function, where open space is expected to play a role as the development of green tourism facilities, thereby attracting public interest to visit an area so that it can indirectly increase economic activity [4]; [5].

Green open space has various benefits, including as a very effective air purifier, able to maintain groundwater availability. It is a place for preserving environmental functions such as flora and fauna. In addition, green open space can provide benefits that users can feel directly, such as beauty and a sense of comfort when in the area. The development of campus green open spaces (RTH) can positively impact supporting teaching and learning activities. Many campuses have now implemented the concept of green open space to create comfort in supporting campus academic activities, including students, lecturers, and employees.

The Kendari State Islamic Institute is a state Islamic religious institute located in Kendari, Southeast Sulawesi. IAIN Kendari is the only state Islamic educational institution in Southeast Sulawesi. The IAIN Kendari Campus is an educational facility whose activities are not always carried out indoors. Still, in their spare time or between lecture hours, most of the IAIN Kendari Campus students carry out activities outside the room and in green open spaces. To meet the ever-increasing demands, the IAIN Kendari campus continues to develop and physically construct its buildings in an effort to facilitate educational activities. In determining the direction of this development policy, it is necessary to make a planning pattern based on existing data and the needs that

must be met so that the IAIN area remains a comfortable, healthy area but can still accommodate and support the various activities carried out in it.

As a form of service in the campus environment, KKN students *On-Campus* carry out a service program with the title Assistance in the Use of Green Open Space to Support Academic Activities at the Kendari State Islamic Institute. This activity was carried out with the following objectives: 1) to determine the level of comfort of the green open space of the IAIN Kendari Campus, 2) to provide understanding to students regarding the use of green open space on the IAIN Kendari campus. The benefits that can be obtained from this activity are 1) being able to explain the level of comfort of the green open space of the IAIN Kendari campus to make visitors more comfortable in carrying out activities in the campus environment, 2) being able to provide understanding to students regarding the use of campus green open spaces.

## 2. Research Methods

The method of data collection in the service entitled mentoring and strengthening the use of green open spaces to support academic activities at IAIN Kendari is to use the questionnaire method, through google form to find out the percentage of answers chosen from each respondent and the lecture and discussion methods used in related mentoring activities. Management and utilization of green open space IAIN Kendari campus. Efforts to increase students' understanding regarding the management and utilization of green open space at the IAIN Kendari campus are accompanied by assistance and strengthening green open space to support academic activities at IAIN Kendari. The series of service activities undertaken by participants KKN *On-campus* can be described as:

### 1. Planning

Stage This stage begins by analyzing the problem situation by holding a meeting with the supervisor to discuss the problems that occur in the IAIN Kendari campus environment, then compiling survey indicators, which consist of Utilization of Green Open Space at IAIN Kendari, the convenience of Green Open Space at IAIN Kendari and efforts the academic community in the management of IAIN Kendari Green Open Space—furthermore, compiling survey items based on indicators and making a questionnaire in the form of a google form.

### 2. Implementation

Stage, The implementation stage of this activity is to distribute a survey in the form of a questionnaire in the form of google form among students of IAIN Kendari. In

addition, at this stage, a Workshop Webinar was also held with the theme "Management and Utilization of Campus Green Open Space at IAIN Kendari," which was held on Sunday, August 8, 2021, then coupled with discussion or questioning activities between participants and presenters, which 43 participants attended through *online media Zoom meeting*.

### 3. Result and Discussion

#### 3.1. The survey on the level of green open space comfort at the IAIN Kendari campus

The survey is composed of three indicators that have several statement items totaling 15 items. Some of these indicators consist of the use of green open space on the IAIN Kendari campus, the convenience of green open space on the IAIN Kendari campus, and the management of green open space on the IAIN Kendari campus.

##### 3.1.1. Utilization of Green Open Space at IAIN Kendari

Green open space has many benefits to the campus environment, including as a producer of oxygen that can be enjoyed not only by the academic community, but also by the community around the IAIN Kendari area. In addition, green open spaces have benefits such as micro-regulation, as water absorbers, sound absorbers and many more.

Based on table 1. the use of green open space campus at IAIN Kendari which has the highest percentage, namely the use of green open space as a place for refreshing for students after carrying out the process of lecture activities, the rate reaches 22.10%, with the number of respondents' answers being 427. The level of achievement of respondents reached 71.17. Furthermore, the campus green open space at IAIN Kendari is often used for field learning activities. The percentage reaches 21.01%, with the number of respondents' answers being 406 and the level of respondent achievement reaching 67.67.

The green open space of IAIN Kendari is also used as a place to discuss with other students who have a percentage of 21.53%, with the number of respondents answering 416 and the respondent's level of achievement reaching 69.33. Not only that but the green open space of the IAIN Kendari campus is also used as a means to carry out sports. This is due to the cool, beautiful, and beautiful atmosphere of the IAIN Kendari

TABLE 1: Recapitulation of indicators for the use of IAIN Kendari Green Open Space

No.	Statement	S	N	%	TCR
1	Green open space is important for refreshing for students after learning activities are carried out	427	120	22,10	71,17
2	Sports activities in the green open spaces IAIN Kendari to bring the atmosphere of a charming, beautiful and comfortable	393	120	20,34	65,50
3	green open spaces IAIN Kendari used as a place to conduct discussions with other students	416	120	21,53	69,33
4	Green open space IAIN kendari often used for learning activities Field	406	120	21,01	67,67
5	Green open space IAIN Kendari unattractive utilized because the activities of supporting facilities are not available properly	290	120	15,01	48,33
<b>Amount</b>		<b>1932</b>	<b>600</b>	<b>100,00</b>	

Note: S= number of respondents' answers, % = percentage of statement items, N= number of respondents, and TCR= respondent's level of achievement.

campus. This can be seen from the number of respondents' answers amounting to 393 with a percentage of 20.34%, and the number of respondents' achievements is 65.50. But on the other hand, the green open space of the IAIN Kendari campus is still not fully utilized. This is due to inadequate facilities such as gazebos, electricity sources, and street lights.

Green open space has various benefits, including as a very effective air purifier, able to maintain groundwater availability. It is a place for preserving environmental functions such as flora and fauna. In addition, green open space can provide benefits that users can feel directly, such as beauty and a sense of comfort when in the area.

### 3.1.2. Convenience of Green Open Space at IAIN Kendari

The Green open space of IAIN Kendari also creates a relaxed and beautiful atmosphere so that users feel comfortable when they are in the IAIN Kendari campus environment and do various activities.

Based on Table 2. the convenience of green open space at the IAIN Kendari campus, it can be seen that the number of respondents' answers was 407, with a percentage of 21.51%, where the respondent's achievement level was 67.83, where the green open space of IAIN Kendari made the IAIN Kendari campus environment a more relaxed and cleaner to make the body and mind calmer. Therefore, the green open space of IAIN

TABLE 2: Recapitulation of comfort indicators for IAIN Kendari green open space

No.	Statement	S	N	%	TCR
1	IAIN Kendari green open space design provides comfort in lecture activities	400	120	21,14	66,67
2	IAIN Kendari green open space can inspire to design activities and complete coursework	404	120	21,35	67,33
3	IAIN Conditions Kendari green open space is very comfortable, so that made me interested in doing a variety of activities on Campus	388	120	20,51	64,67
4	green open space makes the air in the Kendari IAIN environment becomes more relaxed and clean to make the body-mind becomes calm	407	120	21,51	67,83
5	transfer of the function of the Green Open Space of IAIN Kendari for building construction or other activities causes an uncomfortable atmosphere	293	120	15,49	48,83
	<b>Amount</b>	<b>1892</b>	<b>600</b>	<b>100,00</b>	

Note: S= number of respondents' answers, % = percentage of statement items, N= number of respondents, and TCR= respondent's level of achievement.

Kendari can inspire to design activities and complete assignments for this course with 404 respondents' answers and a percentage of 21.35%, and a respondent's level of achievement of 67.33.

In addition, it is also seen from the design of the IAIN Kendari green open space, which provides comfort to students in carrying out lectures. Therefore, the condition of the IAIN Kendari green open space is very comfortable to be a place to carry out various activities on the IAIN Kendari campus. This can be seen from the number of respondents' answers, 388 with a percentage of 20.51%, and a respondent's level of achievement of 64.67. However, due to the transfer of the function of the IAIN Kendari Green Open Space for building construction or other activities, it causes an uncomfortable atmosphere generated by the trees being cut down for development in the IAIN Kendari campus area. But in addition to the activities carried out in the campus area, it still provides a relatively comfortable green open space with an average percentage of 63.07%.

Developments that occur in Indonesia will certainly impact the environment, both positive and negative impacts. One of the negative impacts on the environment is reducing green open space due to land conversion. The existence of green open space is essential for urban areas. The presence of green open space is expected to overcome urban environmental problems, especially in neutralizing the negative impacts caused by urban activities. In addition, green open space, through its role

as a microclimate regulator, can reduce surface temperatures, directly affecting air temperature distribution and increasing the comfort of people’s lives [6]; [5]; [7].

### 3.1.3. Management of Green Open Space IAIN Kendari

Green open space IAIN Kendari has been well organized. However, in some parts of the environment, IAIN Kendari still has shortcomings in facilities such as gazebos, street lights, electricity networks, and several other facilities. In addition, the management of green open space at IAIN Kendari cannot be separated from the role of the academic community, who participate in paying attention to the cleanliness of the campus environment.

TABLE 3: Recapitulation of indicators for IAIN Kendari Green Open Space Management

No.	Statement	S	N	%	TCR
1	Green open space at IAIN Kendari is well organized and maintained	386	120	19,55	64,33
2	Green open space at IAIN Kendari is what I want or need	349	120	17,68	58,17
3	Maintenance Green open spaces at IAIN Kendari must be managed with good management	408	120	20,67	68,00
4	Maintaining the cleanliness of green open spaces at IAIN Kendari is the contribution of the entire academic community	414	120	20,97	69,00
5	the academic community must participate in reforestation on Green Open Space IAIN Kendari	417	120	21,12	69,50
	<b>Amount</b>	<b>1974</b>	<b>600</b>	<b>100,00</b>	

Note: S= number of respondents’ answers, % = percentage of statement items, N= number of respondents, and TCR= respondent’s level of achievement.

Based on table 3. The green open space of the IAIN Kendari campus is still well managed. It creates comfort for the academic community, especially for students who do a lot of activities in the IAIN Kendari environment, even though it is still at a comfortable level with a percentage value of 65.80%. However, the green open space of the IAIN Kendari campus is still not by the needs or desires of the academic community, especially for students. This can be seen from the number of respondents’ answers with the lowest score of 349 and the percentage of 17.68%, and the level of achievement of respondents 58.17. In addition, not a few students think that the green open space of IAIN Kendari is well maintained and organized. This can be seen from the number of respondents’ answers amounting to 389, with a percentage of 19.55%.

The management of campus green open spaces at IAIN Kendari needs to be supported by contributions from the entire academic community and managed well. Then to support the maintenance of campus green open spaces at IAIN Kendari, there needs to be an initiative from the campus management and other academics to carry out reforestation activities or replanting trees on vacant land. According to Fatimah [8]; wulandari [9], green open space management policies are needed to encourage the need for public spaces. Green open space is a multifunctional public facility that can accommodate the needs of its users for social interaction as a means of recreation and exercise.

### 3.2. Assistance Related to the Management and Utilization of Campus Service

The service activity carried out by KKN students *on Campus* is by holding a Webinar entitled Management and Utilization of Campus Green Open Space at IAIN Kendari through the Zoom Meeting platform. The implementation of this Webinar activity is on Sunday, August 8, 2021, at 08.00-11.30 WITA, which was attended by the speaker, Mrs. Hilda Ayu Melvi Amalia, M.Sc., ahead of the Integrated Laboratory of the Faculty of Tarbiyah and Teacher Science Lecturer Tadris Biology IAIN Kendari who is engaged in ecological and conservation studies. He presented a material entitled "Utilization and Management of IAIN Kendari Green Open Space." The activity began with an opening session, a material presentation session by Mrs. Hilda Ayu Melvi Amalia, M.Sc., and then a discussion or question and answer session, which 43 participants attended

When entering the material presentation session, the presenter first explained the meaning of green open space to understand green open space in advance. Furthermore, he explained the existence of green open space and several green open space functions, including ecological functions, socio-cultural functions, economic functions, and aesthetic functions. In addition, he explained that IAIN Kendari has green open space spread in several places, including on the west side of Jln. Sultan Qaimudin, east along the IAIN Kendari Laboratory road, west of the auditorium, and many more scattered in several places in the IAIN Kendari campus area. Green open space plays an essential role for the IAIN Kendari Campus area, including as a producer of oxygen in the IAIN Kendari area, micro-regulation, water absorbers, sound absorbers originating from the noise of passing vehicles around the IAIN Kendari campus.

An excellent public understanding of the value of green open space is a social capital for planners and managers who must have a conceptual method to control the quality



of urban ecosystems, especially related to the form and function of green open spaces about minimizing the negative impacts of urban development and the demands for maintaining the sustainability of urban ecosystems [8]; [10]; [11].

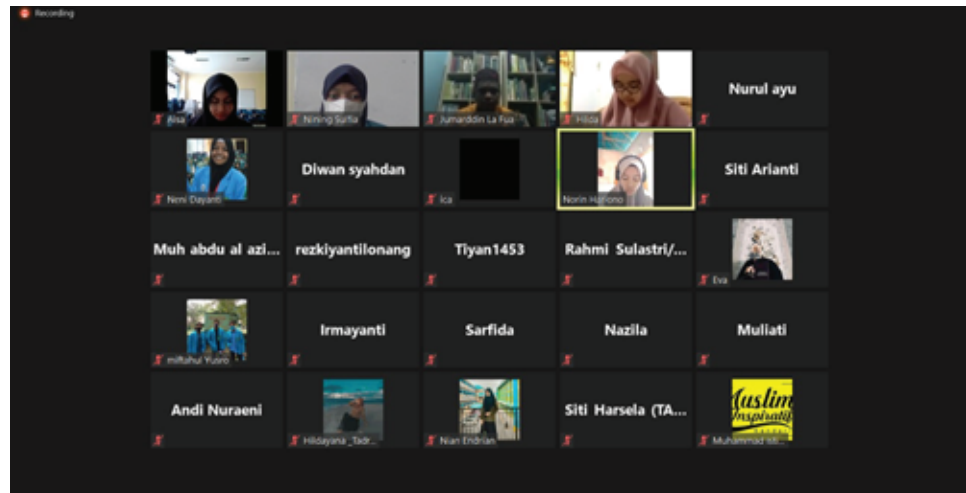


Figure 1: Assistance Webinar in Utilizing Campus Green Space.

## 4. Conclusion

The convenience of campus green open spaces at IAIN Kendari as measured by three survey indicators, including indicators for the use of green open spaces at IAIN Kendari, the comfort of green open spaces at IAIN Kendari, and the management of green open spaces at IAIN Kendari, which have different levels of respondent achievement so that they are included in the category comfortable. Although the green open space of the IAIN Kendari campus is quite comfortable, there must still be various updates, both in terms of green available space facilities, implementation of reforestation. Not only managers but the entire academic community must always pay attention to the cleanliness of the campus environment. Regarding the use and management of campus green open spaces, assistance is provided to all IAIN Kendari students to increase awareness of green open spaces at IAIN Kendari. From this mentoring program, students become more aware that IAIN Kendari already has adequate green open space that can provide benefits not only for the campus environment but also for the health of the academic community and the community living around the IAIN Kendari campus

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