



# Ethical and socio-cultural perspectives on free-roaming cat care: The role of the Universitas Indonesia Peduli Hewan (UIPH) community in urban environmental management

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## ABSTRACT

**Background:** The concept of sustainability can be applied to the management of free-roaming cat populations by humans in their environment. An increasing and uncontrolled free-roaming cat population can create problems for humans, the environment and the cats themselves. One of the efforts to manage the local cat population is carried out by the Universitas Indonesia Cares About Animals/*Universitas Indonesia Peduli Hewan* (UIPH) community in an urban campus environment. Such management is not necessarily in line with the concept of sustainability because it can be influenced by local community and environmental factors about which there is not much knowledge yet. **Methods:** Therefore, research is needed to find out more about the condition of free-roaming cats, the motivation and the role of UIPH in the UI Depok campus. A qualitative approach with in-depth interviews, direct observation and literature study is used. **Findings:** The results show that UIPH is a community of members from lecturers, staff and students who have concern for the survival of cats. UIPH activities include Feeding, Rescue, Fostering, Adoption and Education which are also assisted by volunteers, donations and co-sponsor collaborations. Activities by UIPH contribute to the condition of free-roaming cats that can roam freely on campus with relatively fat and healthy bodies. **Conclusion:** In its process, UIPH also faces problems and challenges related to the natural, social or man-made environment. But so far, they have been able to face them and carry out their routine activities. Membership, connections and ongoing programs have become an opportunity to develop community activities and regenerate wild animal awareness on campus. **Novelty/Originality of this article:** This study highlights the unique role of the UIPH community in managing free-roaming cat populations on an urban campus, contributing to the health and well-being of the animals. It also emphasizes the influence of local environmental and social factors in shaping sustainable wildlife management strategies.

**KEYWORDS:** community; campus; animal care; free-roaming cat; cat population management; sustainability.

## 1. Introduction

The concept of sustainability can be an ideal basic concept for human management of their environment in order to have human existence co-exist with various environmental elements on this earth in a sustainable manner (Miller & Spoolman, 2018; Richards, 2017). The concept of sustainability also includes exploring the ability to continue an activity or existence that can meet current needs without compromising the future generation's ability to meet their respective needs

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(Miller & Spoolman, 2018; Richards, 2017). This concept can be observed in the presence of humans and free-roaming cats in their surroundings, namely when humans try to meet their needs while still paying attention to the sustainable existence of free-roaming cats and their environment. This effort is implemented through the management of free-roaming cat populations in an environment.

An increasing and uncontrolled free-roaming cat population can create problems for humans, the environment and the cats themselves (Robertson, 2008). Environmental conditions, especially urban areas, do not necessarily support the quality of cat life starting from the availability of food (Fadhilatunnisa et al., 2021; Rioja-Lang et al., 2019) to treatment from humans, for example violence (Gunther et al., 2015; Hadiwijaya et al., 2022). Concern for cats has an impact on the treatment of cats in their locations (Fadhilatunnisa et al., 2021; Rioja-Lang et al., 2019). Cats can be friendly companions to humans, but cats can also cause discomfort to humans or carry diseases such as rabies or toxoplasma which can be a threat to human health (Keulartz & Bovenkerk, 2021; Luzardo et al., 2023; Nealma, et al., 2013).

One of the human efforts to manage the free-roaming cat population in an urban environment can be seen in the form of management by humans at the University of Indonesia (UI), Depok, West Java, towards the free-roaming cat population in the local campus environment. It is known that the management of free-roaming cat populations can be done in various ways (Robertson, 2008). This management was once carried out through removing free-roaming cats from the campus environment by the Human, Safety and Environment (HSE) unit a.k.a K3L UI, which is tasked with maintaining environment security at UI Depok. The emergence of the Universitas Indonesia Peduli Hewan (UIPH) community then became an alternative for the management of these free-roaming cats, namely by the approach of caring for free-roaming cats.

The UIPH Community is a non-profit community of UI students, lecturers and staff that distribute news on the latest conditions and provides a forum for animal welfare on the UI campus, including that of cats. Some of the programs carried out are feeding (street feeding), sterilization, treatment of sick cats in the clinic (rescue), healing care after treatment in the clinic (foster), and adoption offers. The UIPH Community is also trying to increase public awareness, especially towards the citizens of UI, to be able to live side by side with local animals. Based on information from their official social media accounts and other news websites, all of these activities are carried out based on the capabilities of UIPH members, merchandise fundraisers, collaborations, and financial or resource assistance from donors (Figure 1).

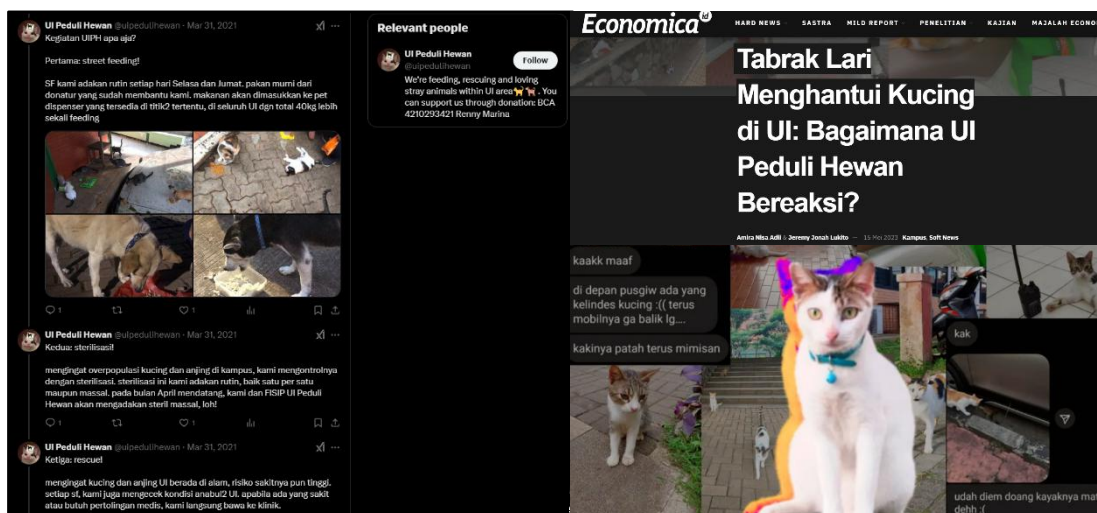


Fig. 1. Activities of UIPH as posted on their social media and other news websites (UIPH, 2021)

Environmental management by humans, especially towards the free-roaming cat population in their environment, as carried out by the UIPH community is hoped to become a sustainable free-roaming cat population management activity. McDonald & Clements (2019) states that sustainable environmental management will require sustainable management activities and sustainable contributions from their managers. Meanwhile, the availability of activities and contributions from managers in a sustainable manner will depend on the suitability of free-roaming cat management activities to the local social environment and the suitability to activity managers (Deak et al., 2019; McDonald & Clements, 2019). In addition, the possibility that an activity for managing a cat population is in line with the concept of sustainable environmental management requires attention to three types of environmental aspects, namely aspects of the natural environment, aspects of the social environment and aspects of the built environment (Miller & Spoolman, 2018; Richards, 2017).

Knowledge regarding the sustainability of free-roaming cat population management in urban campus environments, is still limited to quantitative information regarding the effectiveness of implementing population control methods (Deak et al., 2019; Swarbrick & Rand, 2018; Spehar & Wolf, 2019; The Humane Society of United States, 2020). Thus, an assessment of the management of the local free-roaming cat population by the UIPH community in the UI Depok campus is important to complete the understanding of how the perspective of managers and the role of management in the local urban campus environment, which is also made possible by the managers of the free-roaming cat population, is materialized and its relation to sustainable management of free-roaming cat populations in its environment. This research was conducted to explore systematically upon the motivation and role of the UIPH community in the management of free-roaming cat populations in its local environment. Thus, the following research questions arise: how the condition of free-roaming cats is on the UI Depok campus and how the motivation and role of the UIPH community are in caring for free-roaming cats at UI Depok. This research has the following objectives: understanding the condition of free-roaming cats in the UI Depok campus and understanding the motivation and role of the UIPH community in caring for free-roaming cats at UI Depok.

## 2. Methods

This study uses a qualitative approach. Creswell (2014) explains that a qualitative approach is an approach to explore and understand the meaning placed or assumed by individuals or groups towards human or social problems. The process of qualitative research methods involves asking questions, data is collected in the setting of the situation of the research participants, data analysis is built inductively from specific themes to general themes, and the researcher makes interpretations of the meaning of the data. This research was conducted in the UI Depok campus area in May to June 2023.

Data collection was carried out by means of in-depth interviews, direct observation and literature study. The criteria for key informants were defined as parties who understand the condition and existence of free-roaming cats in the UI Depok campus and the role of the UIPH community in caring for free-roaming cats at UI Depok. The selection of informants was carried out to obtain a point of view from a community pioneer, a community implementer and a community's prospective next generation so that the pattern of development and direction of movement of the community can be seen. Thus, information about the motivation and role of UIPH in the management of free-roaming cats at UI Depok can be seen in depth. The research was conducted in the UI Depok campus area. The interview guide used can be seen in Table 1.

In-depth interviews with three selected key informants were done online and offline. One interview with the UIPH community pioneer was conducted via Zoom video call service due to schedule limitations, while interviews with 1 UIPH community coordinator and 1 active UIPH member with the initials RE who had just joined for 2 months were conducted on the same day as direct observation. Direct observation was carried out by being directly

involved in UIPH activities, namely feedings as other activities such as neutering and adopting were only done through occasional events. This direct observation is needed so that researchers can also experience real experiences in the process of community activities. This process will also build closeness between researchers and the UIPH community, so that the information obtained can be more in-depth and can be seen directly in real conditions in the field. Behavior and activities need to be observed in order to determine the meaning of a phenomenon from the point of view of the implementer by identifying the community (Creswell, 2014). The resulting data were compiled and thematically coded. A literature study was conducted to support information related to the UIPH community and the management of free-roaming cat populations.

Table 1. Interview questions for assessing the UIPH

No	Question
1.	What is the condition of the free-roaming cat population in the UI campus area? How is the condition of the environment supporting free-roaming cats on the UI campus?
2.	What is the history of the establishment of the UI animal care community? What is the basic reason or motivation for establishing this community? Who are the promoters who play a role in the community start-up process?
3.	How does the UI animal care community take care of free-roaming cats? What programs have been implemented and what is the level of success? What programs will be carried out in the next 5 years?
4.	Who are the supporters or sponsors involved who have supported community activities from the past to the present? How is UIPH's current funding system? How did campus officials respond to UIPH activities?

### 3. Results and Discussion

#### 3.1 Condition of free-roaming cats at the UI Depok campus

Sustainability between the existence of free-roaming cat populations and humans and their environment can be viewed from three aspects of the concept of sustainable environment, namely from the aspects of the natural environment, social or cultural environment and the built environment. The implementation of human activities takes place in a system that is inseparable from the three types of environments and also depends on those three types of environments as capital for the continued human activity in question. Sustainable human activities will not reduce or will minimize the possibility of reducing these three capitals (Richards, 2017).

From the aspect of the natural environment, the literature regarding the existence of free-roaming cat populations in their natural environment is experiencing a lot of debate. The debate stems from differences in views regarding the environmental ethics which need to be implemented in dealing with the presence of free-roaming cats. Most of environmental conservationists agree that there is a need for strict management of free-roaming cat populations because they pose a threat to public health and the surrounding ecosystem, considering that free-roaming cats, especially in urban areas, can transmit diseases to humans through zoonosis and are invasive species that may carry diseases to, prey upon and can even eliminate other wildlife in their ecosystems which it resides in. Meanwhile, animal welfare experts generally suggest other approaches, namely approaches that prioritize cat welfare in the process of managing the cat population and that there are claims of exaggerated threat levels caused by the presence of free-roaming cats (Dombrosky & Wolverton, 2014; Deak et al., 2019; Loss et al., 2022).

The approach to treating the free-roaming cat population chosen by UIPH is indeed one that is generally chosen by cat enthusiasts and animal welfare activists (Dombrosky & Wolverton, 2014; Deak et al., 2019). This was confirmed from in-depth interviews, which is that it is in accordance with the motivations for establishing the community and the choice to advocate for this cat care approach compared to other approaches, for example

approaches that end in eliminating free-roaming cats. The existence of a free-roaming cat population in the UI Depok campus was observed, reflecting the caring of this population. It can be observed that these free-roaming cats generally roam freely on campus with relatively fat and healthy bodies (showing no illness or inability to move). This condition is possible to obtain in part because of the impact of several programs implemented by the UIPH in managing free-roaming cat populations, namely population control while simultaneously increasing the welfare of existing free-roaming cats. This is in accordance with what the UIPH Coordinator said.

*"Sterilization needs to be done to prevent the growth of the population of lying cats on campus. Because in a year cats can give birth up to 3-4 times. And in one birth there can be 4-5 kittens. Cats that have been sterilized are marked by a small tear being made in the ear."* – UIPH Coordinator

The absence of a solution to managing the free-roaming cat population that is effective in reducing the cat population adequately and is also acceptable by the community can be said to be an obstacle to controlling the effect of the presence of free-roaming cats on the surrounding natural ecosystem (Robertson, 2008). The effect of free-roaming cats on the campus ecosystem is relatively unknown since UIPH does not monitor the cats in detail due to the abundance of cats, so that population numbers through deaths, births, and migration are not precisely controlled. Though some especially regarded individuals are easier to monitor by UIPH members (Ferreira et al., 2020; Zhang et al., 2022). Other studies have reported increase in the number of population mostly due to additional cat migration into the colony or increasing rate of birth higher than rate of control (Deak et al., 2019; Kennedy et al., 2020). Based on UIPH information, free-roaming cats have been seen on several occasions preying on birds in the campus area and fish from the edge of the campus lake. UIPH has carried out programs, namely sterilization, adoption, feeding by humans. In addition, the presence of food scraps in the canteen and trash bins makes many cats look for food there as a supplement to their intake. However, this is risky because the trash is often mixed with indigestible objects, which can be harmful to the cat's health (Crawford et al., 2020). This condition is also in accordance with the explanation of the UIPH Coordinator.

*"From the perspective of the built environment, the spread of canteens in various corners of the campus contributes to the production of food waste, which is then used by stray cats as a food source. However, the presence of roads that are busy with vehicles such as motorbikes, cars, and campus buses also poses a threat to stray cats. Heavy traffic increases the risk of accidents, so mitigation efforts are needed, such as providing safer eating areas for cats and increasing awareness of animal safety in the campus environment."* – UIPH Coordinator

Despite existing efforts, the management of free-roaming cats by the UIPH community itself in the first place depends on access and ease of management of the cats. Various characteristics of cats and cat's own agency in coming to a location along with their interactions with humans and other animals can influence this management (Meijer, 2021). UIPH thus has acted in consideration of the cats' agency, namely that cats are cared for at their location and that most of the cats cared for by UIPH are cats that have been tamed or patient efforts have been made to tame them despite being aggressive or avoidant at first. Thus it can be considered that the free-roaming cats are guarded from some of the most common and major issues regarding cat welfare including pain, health, fear, and inadequate resources (Rioja-Lang et al., 2019).

Based on the results of observations and interviews with key informants, overall, UI Depok campus residents were observed to still be able to accept this management because they can mostly tolerate the existence of free-roaming cats, as concluded by very few cases of human mistreatment of cats. For example, the UIPH Coordinator only remembered that there was one incident of bad behavior by humans towards cats, namely a person tying

rubber bands on a cat's leg so that it swelled up. The behavior of feeding cats from leftover food or simply letting them be or verbally repelling them, without physical violence, when disturbed by the presence of cats was more often observed among residents of the UI Depok campus. Despite that, there does still exist more different responses upon the existence of free-roaming cats. For example there are several areas on the UI campus where managers will strive to remove cats from the area or there will be placed prohibitions for UIPH from feeding in the area. This had also happened on several incidents on a smaller scale, namely through complaints, where there was no ban on UIPH activities but disapproval of the existence of free-roaming cats in the local area because there were several cats that have been a nuisance by climbing tables, stealing food, or entering rooms.

As a response when a cat-related problem occurs, UIPH cooperates by not giving food in areas that are prohibited or working with residents to handle it as much as possible with a caring-for approach rather than by elimination. Opportunity to handle cats by relocating them to another place that is known to be safe, such as another location on campus or to an animal shelter, is always attempted by UIPH even though it may be known that cats have the characteristic of filling void areas so that the possibility of relocating cats isn't a good solution (Bicalho et al., 2024). This relocation was carried out through UIPH's collaboration with other parties who also care about cats in the local location. This attitude of UIPH members taking responsibility for managed cats' behaviors are similar to studies found on those who own cats, and even more so those who are aware of their cat's nuisance behavior, thus the cooperation of people reporting cats' nuisance behaviors appears to help for more synergic and effective management of cats (Tan et al. 2020).

Even so, most of the buildings or areas were cooperative or not opposed to UIPH activities, especially routine feeding. There are also several parties taking the initiative or working with UIPH to feed cats more intensively or through other activities. There is a non-formal collaboration between UIPH and university management, namely K3L UI, when it involves activities related to cats, for example feeding at locations on the UI campus, preventing cat removal, and even granting a special permission for feeding during the Covid-19 campus lockdown period. Apart from that, there are UI alumni who are clinic owners who facilitate cooperation in the need for cats to go to the clinic. These opportunities for cooperation occurred because parties other than UIPH also cared about cats. UIPH also receives reports from UI residents regarding cat welfare, accidents and deaths which are useful to UIPH members to care better for the existing cats (Gunther et al., 2015). Community support from multiple levels, capabilities, and various perspectives not only helps support activities and overcome varying challenges, but may be advantageous to adapt to changes in the future for a more sustainable management (Baird et al., 2019).

UIPH members do realize that not all parties can like the existence and welfare of local cats or will prioritize other things, such as the function of the local location. In a more general sense, the differences between views on the existence and management of free-roaming cats are common in various parts of the world, between various groups or individual characteristics of people. For example, some determinants may be residence location, gender and attitudes of people, awareness or previous experience of owning or handling cat threats towards their environment (Dombrosky & Wolverson, 2014; Deak et al., 2019; De Ruyver et al. 2021). Other determinants are values upon the presence of free-roaming cats, such as being seen positively as part of human interpretation of the world, or as part of environmental aesthetics, or as benefits for certain groups of people who care about their existence, or as part of a pest control solution. These differences in views can lead to a desire to manage the local free-roaming cat population in different ways, so it is important to pay attention to all local stakeholders and the socio-political system where perspectives can hinder or support the chosen management. With various stakeholder's views considered and shared perspectives obtained for support, the management techniques can be tailored and carried out as a more sustainable management (Deak et al., 2019).

In addition to the social environment, the built environment, which is the environment created by humans in managing the surrounding natural environment, the UI Depok

campus also supports the existence of free-roaming cats. The artificial environment in the UI Depok campus promotes natural and vegetated environments (Universitas Indonesia, 2019), so there are still many gardens enriched with ornamental plants or large trees. In addition, there are also lakes at several points. The spread of canteens in various corners of the campus has also contributed to availability of leftovers or accessible trash. This indirectly builds an ecosystem that supports the existence of free-roaming cats by allowing the presence of small birds, fish and other small animals, or human food which may become another source of food for cats. There is still a lot of earthy or sandy land (not covered by asphalt or buildings) which makes it easier for cats to defecate in places that are generally human preferences (Robertson, 2008; Rioja-Lang, et al., 2019).

### *3.2 Motivation of UIPH Community in caring for free-roaming cats at the UI Depok campus*

Employees initially had a concern for feeding stray animals on campus in 2019, but this activity was only individual or disorganized and not routine. With several employees who had the same concerns, around July 2019, these employees formed a social media group (Whatsapp) to facilitate coordination between employees. In the same year, there was a campus policy to control free-roaming cats and dogs which began in the Faculty of Humanities a.k.a. Fakultas Ilmu Budaya (FIB) and around the Pimpro building in order to reduce the cat and dog population. This was announced by the local leadership by assigning the K3L UI section to move these wild animals to the Ragunan area. The process of moving animals that are not proper and the destination for moving is not prepared can have an impact on the emergence of deaths among these animals (Munir et al., 2023).

Hearing the news of the relocation, employees who are concerned about wild animals took the initiative to gather more people from employees, lecturers and students through a larger Whatsapp group. This is done to build coordination with various parties in each faculty area, to prevent mismanagement like what happened before. Before the formation of UIPH, there were several movements or communities in several faculties, namely Sastra Kucing (by FIB), Peduli Hewan FISIP (Faculty of Social and Political Sciences a.k.a. Fakultas Ilmu Sosial dan Politik) dan Peduli Hewan FEB (Faculty of Economics and Business a.k.a. Fakultas Ekonomi dan Bisnis). However, these communities are only local in their respective faculties. The presence of UIPH is expected to become a common forum to pay attention to wild animal populations in the UI Depok campus. Another measure in the form of mitigation of the inappropriate transfer process was previously carried out by looking for people who are willing to adopt cats that have already been planned to be moved to the Ragunan area.

Originally the target of wild animals was meant to be cats and dogs. However, from 2021-2022 dogs around campus were brought to shelters which were then carried out by open adoption. Currently, there is only 1 dog named Sera who is left on campus because one of the central security guards asked to be kept around the guard post, as dogs are known to make good pets and guard animals (Abdulkarim et al., 2021). Speciation in perceiving the appropriate management of animals may stem from individual or societal beliefs and experiences (Alikhan & Alam, 2024).

Since the emergence of Covid-19 which made campus mandatory lockdown in March 2020 and had an impact on the lack of activities on campus and the canteen was closed, so there was concern among lecturers and campus employees about the daily food of cats and dogs inside the UI Depok campus. So since then, the lecturer has mobilized employees and students to carry out feeding activities routinely twice a week, namely Monday and Thursday. The collaboration between these parties eventually provided a special policy in the form of allowing UIPH members to enter the campus even under the circumstances of lockdown, for the sake of feeding the stray animals on campus.

Community activities had experienced a vacuum due to a lack of human resources in 2022. Then a new management was formed with student of the Faculty of Engineering as the coordinator. With the election of a new coordinator, UIPH activities began to run better and routinely with more organized control and collaboration. The existence of the UIPH



community is expected to be one of the drivers of caring for cat welfare. This is similar to the cat management by community in a research by McDonald & Clements (2019), where the community was found to have contributed to increasing awareness and monitoring of cats in the research community.

The current active members of the UIPH movement consist of 14 students, 1 campus employee and 1 lecturer who are the supervisors. Student elements have started to join actively since mid-2020. However, in the process of this community activity, employees, students or other lecturers who participate as volunteers are also assisted. As was done at FEB where community members simply delivered cat food to FEB, which then employees or students from the faculty distributed cat food to predetermined points in their respective faculties. Membership elements have different roles in the community. This adjusts to the ability of each member. As with field activities such as feeding and rescue, students and employees are more likely to be involved. Meanwhile, the bureaucratic process and negotiations are more handled by lecturers. Differences in the elements of community members do not become a limitation, but rather become an opportunity to help each other. Every UIPH activity is also always reported through social media and is always open to anyone who wants to become a volunteer or donor. There are even donors from students' parents who also care for the animals on campus. Thus, the entrance to the community is always open at all times.

The use of social media, along with the various available and continuously open roles for supporting the community's efforts can lead to increased sustainability through increasing benefits felt by the individuals or community in contact. Individual participation in the community that monitors cats has been reported to bring about a sense of community, enjoyment and personal achievement. Based on the perspective of positive psychology, these feelings are also valuable for the improvement of human well-being (McDonald & Clements, 2019). Increased ability and confidence in helping cats for individuals who participates, accompanied by empowering individuals to take an active role in becoming cat advocates further ensures the long-term sustainability of the cat monitoring activities (McDonald & Clements, 2019; Nikolskaya et al., 2020). Self-efficacy and self-confidence in helping cats can determine whether an individual who has the intention to help cats will carry out activities that help cats (McDonald & Clements, 2019). This is what then encourages the members or volunteers to take the time during their busy lives on campus to pay attention to free-roaming cats on campus, even if it means having a relatively more complicated life (Nikolskaya et al., 2020).

UIPH community members tend to have the same reasons or motivations for participating in UIPH activities, namely a sense of concern for wild animals, especially cats, as explained by RE. Because UIPH members also have pet cats in their respective homes and feel sorry to see cats on campus if they have to be abandoned. Stray animals can often be associated with uncleanliness, driving away possible care towards them (Alikhan & Alam, 2024). But in this case, cats are cared for and healthy, thus being considered cute and giving the impression of being comfortable and pleasant to humans. This is in line with how animal rights activists may have their personal experiences as reasons to act (Alikhan & Alam, 2024).

*"Since long ago, I have loved cats. At home, I keep seven cats. For me, being kind not only to fellow humans, but also to animals is a life choice. In addition, I want to educate others about the importance of doing good, both to others and the surrounding environment. Rather than spending time just hanging out or watching dramas with friends, I choose to do something more useful. I realize that no one knows how long my life will last, so I want to make sure that during my life, I can do good. By learning autodidactically and caring about the environment, I hope to have a positive impact on the surrounding environment."*  
- RE

The pioneer of this community explained that animal care activities are a life choice. Because caring and doing good to fellow humans is an obligation, but being kind to animals



is a choice. This choice is felt to be better than having to waste time just playing, watching movies or dramas for hours or doing unnecessary things. With the hope that one day the end of age will come, then it will happen when you do good, even if that kindness is only for animals. Besides that, it is also a means of educating others that we must get along with the surrounding environment. Because basically it is humans who become guests and build buildings in a place where other creatures in the form of plants or animals have lived in that location. Therefore, as a guest, it is not good if you are rude and consider wild animals as a nuisance. This perspective is different than some social theories discussed in a study by Alikhan & Alam (2024), but is similar where the founders of animal rights organizations have an intense connection for their interactions with animals (Alikhan & Alam, 2024; Nayeri et al., 2025). This helps for mental support to carry out volunteer activities (Alikhan & Alam, 2024), where dedication is seen as an essential factor for successful execution of the programs (Abdulkarim et al. 2021). It also reflects ecocentric and zoocentric ethics that has been increasing with available education (Dombrosky & Wolverson, 2014; Wolf & Schaffner, 2018), considered relevant as the activities are from a campus setting.

### 3.3 The role of The UIPH Community in caring for free-roaming cats at the UI Depok campus

Management of the cat population by providing food, shelter, basic medication, and conducting Trap-Neuter-Return (TNR) (sterilization) practices are one of the options for controlling the population while maintaining a good level of quality of life for cats (Robertson, 2008; Luzardo et al., 2023). This kind of management is also implemented by UIPH in the form of feeding, rescue, fostering, sterilization, adoption and education. However, the current priority activities are feeding and sterilization. The real impact of this activity can be seen in the condition of the cats in the UI Depok campus which are relatively fat and healthy, as well as in a relatively controlled population.

Feeding is carried out routinely by UIPH members every Tuesday and Friday. The hours of feeding are adjusted to the schedule of community members. Often it is held in the afternoon at 16.00 (after class hours) or when campus employees go home, so that on the way home at the same time fill the cat's feeder with cat food that has previously been prepared at the community gathering point around Science Park UI. The process is carried out on foot or by motorcycle. There are 4 lanes with a total of 29 feeding points in the UI Depok campus area for routine feeding activities. Apart from routine feeding activities, UIPH also collaborates with other parties, such as collaboration with Cat Sitter Indonesia on June 1, 2023 to carry out feedings together.



Fig. 2. Feeding activities by UIPH  
(Personal Documentation, 2023)

Feeding activities require approximately 2.5 sacks of cat food with a total weight of 20 kg for one day (Figure 2). If in one month there are 8 feedings, then 160 kg of cat food is

needed. Fulfilment of these feed needs is obtained from donations in the form of cash or in the form of cat food. The donations received by UIPH are not routine, so the funds collected each month are not the same. Donations in the form of cat food in the form of sponsorship collaborations with cat manufacturers such as Super Cat and Miaw in return in the form of videos of feeding practices.

Rescue and fostering are carried out to save cats that are sick or have had accidents. If the illness is mild, UIPH members will provide light treatment, but if the patient is seriously ill or critically ill, they will be taken to a clinic that has collaborated with UIPH. The form of cooperation with the clinic is in the form of payment for cat medicine that can be paid in installments, so as not to burden UIPH. Temporary shelter facilities are also available when the clinic cannot be reached as explained by the UIPH Coordinator. Assistance with various resources, including financial, helps the sustainability of activities better than relying on just one type of resource.

*“Rescue activities are carried out to save cats that are sick or have accidents. If the condition is severe, cats are usually taken to a clinic around Sukmajaya to receive medical treatment. However, if the clinic cannot be reached, there are temporary shelter facilities around Beji/Depok. In addition, for minor injuries or illnesses that can still be treated independently, treatment is carried out by community members. This community also receives reports from campus residents, especially regarding cats that have accidents or need help.”* – UIPH Coordinator

The condition and presence of free-roaming cats in the UI Depok campus is monitored by the UIPH Depok community in a big picture way and incidentally through the daily activities and routine activities of the UIPH programs. The free-roaming cat community in the UI Depok campus is monitored through visual detection for signs of a sick cat or when there are reports from campus residents. The activity of rescue and fostering makes sure that the cats are able to move and not be in pain.



Fig. 3. Mark on the cat's ears showing the cat has been sterilized  
(Personal Documentation, 2023)

Sterilization needs to be done to prevent an increase in the free-roaming cat population on campus. A sterilization activity is carried out independently by the community and through cooperation or sponsorship. One of the mass sterilization activities is carried out in collaboration with KitaBisa.com and Let's Adopt Indonesia in February-April 2023 with a quota of 200-250 cats to be sterilized. In the process of catching cats, UIPH was also assisted by approximately 20 volunteers so that in one capture, 50 of them could be collected to be sterilized. Sterilization can be important as, based on research by Gunther et al., (2015), the high reproduction rate of free-roaming cats in urban areas has a significant association with the level of complaints related to cats, although the number of complaints may also be

affected by the culture or awareness of the local community and the frequency of disturbances. Independent sterilization in the community is carried out in a veterinary clinic by prioritizing female cats first because it contributes to population growth by giving birth. The cost of sterilizing female cats is higher because of the higher level of difficulty. Cats that have been neutered are marked by making a small tear in their ear so they can easily be differentiated from those who have not (Bicalho et al., 2024).

Adoption is carried out to provide opportunities for people who have an interest in raising animals while at the same time providing a more decent life for these animals. In the adoption process, education was also carried out by UIPH by giving directions to be willing to care for and commit not to abandon or release them into the wild. This is to prevent neglect or errors while caring for cats and decrease possible contribution to uncertain conditions and numbers of free-roaming cat population (Munir et al., 2023).

Education conducted by UIPH is carried out through direct activities in the field and through social media. The main education that UIPH wants to convey is that humans must also be able to coexist with wild animals in their environment. Handling of animal populations does not have to be by force or torture, but by treating and controlling populations by means of a sterilization process. With this understanding, it is hoped that humans in the UI Depok campus environment can have environmental concerns that are applied in everyday life, both on campus and outside. One example of the success of UIPH's education is that a student from Jember who was previously afraid of cats became a cat lover who, when he returned to his hometown, helped abandoned cats locally, demonstrating impacts beyond borders of the campus. The success of this education is likely to occur because the process of transferring information and involving individuals in activities provides opportunities to increase their sense of ability to deal with the presence of cats (McDonald & Clements, 2019).

The UIPH community's social media platform is also a news platform that describes UIPH's activities and the condition of animals on the UI Campus. Through social media, UIPH also reports the use of funds from donors. This interaction, transparency and reputation for donors can build essentially needed trust and a competitive edge among other potential donation destinations. The use of social media to share content is also in line with the behavior of dog and cat lovers communities on social media in research by Golbeck (2011) who found that social media users are based on similarities in preferences, namely dogs or cats, among others, to form communities to discuss everything about their preferences for the same with animals and interact through online intermediaries, or to ask for advice as well as showing fondness for the animals.

### *3.4 Challenges and opportunities*

UIPH activities that have been going on since 2019 have certainly experienced various problems and challenges. These problems include the existence of irresponsible parties who abandon cats or dogs to the UI Depok campus area. There are some people who feel uncomfortable with the behavior of a naughty cat that steals food or the smell of feces. Sometimes there are also attempts to make cats disappear. Even though the removal of cats usually cannot solve the problem, considering that cats are territorial animals, thus new cats will come to occupy an empty area. This is in accordance with the explanation of the UIPH coordinator and UIPH members.

*“One of the challenges faced is that there are still people who dump cats or dogs on campus. In addition, protests against cat feces and the behavior of cats stealing food are also problems. However, changing strategies in feeding have helped overcome these challenges. There are still cases of cats disappearing from an area, where it is suspected that there are parties who deliberately remove cats from the location for unknown reasons. The territorial nature of cats, which tend to occupy areas that have been abandoned by previous cats, allows new cats to be found in the same place after the old*

*cat disappeared. However, there is still concern about the elimination of cats by various parties, especially in locations that are not maintained.” – UIPH Coordinator*

*“There are concerns about the possibility of cat culling by various parties, especially in locations that do not receive adequate care and supervision.” - ER*

The UI Depok campus area has quite busy road access, resulting in the vulnerability of cat accidents by motorized vehicles, similar to other urban or even rural places (Tan et al., 2020). Alterations to the environment via the feeding strategy have helped overcome these challenges, such as the strategic placement of cat food places and the transfer of naughty cats to shelters. Despite that, the condition of the campus environment which is relatively green and the lack of social conflict makes the campus area a habitat that still supports the existence of wild animals.

The UIPH community has a membership from various groups of people, namely students, staff and teaching lecturers. This provides opportunities in the form of filled roles that can support the success of community programs. These advantages may not be owned by other communities. Organized membership and an extensive network make it easier to build cooperation with parties inside and outside the campus. The UIPH community's social media can reach various parties, thus facilitating the process of public engagement, reports and fundraising for UIPH activities. Public engagement and raising awareness along with education is essential to raise social and financial support to carry out management programs (Deak et al., 2019).

The UIPH community is currently working to transform the community into an official organization in the form of a Student Activity Unit which is legally recognized by UI. This recognition will certainly facilitate UIPH activities such as borrowing infrastructure, funding support from the campus, and various other advantages to carry out its activities. UIPH also has plans to involve animal care activists and veterinarians in a wider educational effort. It is hoped that the involvement of these experts will further increase knowledge and concern for the life of free-roaming cats in their environment for members and the general public alike (Abdulkarim et al. 2021). In line with the literature, various kinds of conservation education innovations can be formed in an effort to overcome differences of opinion or environmental ethics, namely not only through the exchange of information, but through the involvement of individuals in activities related to conservation, for example in environmental education, participatory conservation, to community-based conservation, as experienced and attempted by UIPH in the UI Depok campus environment (Dombrosky & Wolverton, 2014; McDonald & Clements, 2019; Luzardo et al., 2023).

#### **4. Conclusions**

Several things can be identified that support environmental management by humans, especially the management of free-roaming cat populations by the UIPH community in the local urban campus environment, which is in line with the concept of sustainability in natural, social and artificial environmental aspects. The existence of a free-roaming cat population in the UI Depok campus reflects the maintenance of this population. It can be observed that these free-roaming cats generally roam freely on campus with relatively fat and healthy bodies. In general, social conditions can accept the existence of free-roaming cats because there are few cases of human mistreatment of cats. Collaboration by various parties outside UIPH also facilitates the management of the cat population. The built environment also supports the existence of free-roaming cats. The spread of canteens, parks and lakes at several points indirectly builds an ecosystem that supports the existence of free-roaming cats with the availability of food sources. There is still a lot of land or sandy land that makes it easier for cats to defecate.

UIPH activities begin with individual and non-routine activities which are then organized and involve employees, lecturers and students who then form a community with regular activities. With the hope that it can become a forum for people who have concerns

in an effort to pay attention to wild animal populations in the UI Depok campus. UIPH activities include feeding, rescue, fostering, sterilization and education. UIPH's presence helps maintain health and control the number of wild animal populations on campus, as well as build awareness of concern for the environment. The motivation and role played by these managers supports the sustainability of free-roaming cat population management activities in the local environment. In the process, UIPH also faces problems and challenges related to the natural, social or artificial environment, but so far they can still be faced and carry out activities on a regular basis. Membership, connections and ongoing programs have become an opportunity to develop community activities and regenerate wild animal awareness on campus.

The limitations of this study include two limitations. First, this research seeks to answer a research problem, namely regarding the role of the UIPH community using qualitative research methods on informants from within the UIPH community with responses to the social, natural and artificial environment obtained from the perspective of the informants. This research has demonstrated the response to and impact of UIPH's presence in its environment and is the first research within the urban campus scope to be conducted qualitatively to provide a deep picture of the conditions that occur in that situation. However, data collection using quantitative or mixed methods (qualitative and quantitative) and including informants from outsiders of UIPH and assessments of social, natural and artificial environmental conditions may be able to further complete the description of UIPH's role in its environment. Second, this research seeks to fill the theoretical gap regarding the situation of managing the free-roaming cat population in the local urban campus environment qualitatively, but still only takes one example of a campus area. This research is the first research of its kind, so comparisons with management in other campus environments cannot be done. Studies on other but smaller ongoing communities or other movements on the management of the cat population in the University of Indonesia or studies on the management of the free-roaming cat population on other urban campuses or areas may be able to provide a richer picture of the state of management of free-roaming cat populations in their local urban environment.

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The authors declare no conflict of interest.



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