

RESEARCH ARTICLE

## Ethical challenges in relation to nature and biodiversity

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We live in a world where human activities are changing the balance of nature every day. This situation also brings specific ethical challenges. The relationship between humans and biodiversity is not only a question of nature conservation, but also of deep moral reflection. Today there is no longer any dispute that human activities have an impact on biodiversity and that our actions today shape the world for future generations. The authors of this article, after conducting research and qualitative analysis of expert sources relevant to the topic, reflect on the links between our decisions and the state of biodiversity. Historical and contemporary schools of thought that influence our behavior towards nature were explored in order to analyze how ethical theories shape conservation strategies and what dilemmas associated with this topic are faced by humanity. The qualitative analysis conducted shows that the anthropocentric strand focuses on human needs and places them at the centre of ethical considerations and that this approach can be perceived as outdated from an ethical perspective today. Science, on the other hand, can also provide the knowledge and data needed for environmental protection. Unexpected ethical dilemmas arise in the conservation of selected specific endemic species. Environmental protection must be seen as a moral obligation for humans.

**Keywords:** Environmental Ethics; Biodiversity; Ethical dilemmas; Environmental education.

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### Introduction

Humanity today is facing global environmental problems such as global warming, desertification, pollution of land, oceans and air, deforestation, and even biodiversity loss (Hájek, M., et al., 2019). Today, there is also no longer any doubt that these undesirable phenomena are the result of negative human activities (Basheer, MF., et al., 2024). Some authors refer to this situation as an environmental and ecological crisis (De Campos Mello, V. 2000). Here, it is not just a confusion of these terms, which are largely intertwined in the works of some authors, but precisely phenomena such as biodiversity loss, which are a clear sign of an ecological crisis (Hamblin, JD. 2022). As is already evident from the above, there are a number of ethical dilemmas associated with this issue, which, when understood and accepted, can lead to a significant shift in humanity's relationship with nature. From a philosophical point of view, the relationship between humans and nature is a relationship referred to as the self and the environment and is directly related to the relationship between the self and the self (Bonnett, M., 2023). The roots of the search for man's relationship with nature can be found in ancient philosophers, in the Hellenistic period (Muller, H. 2023). And this relationship and the ethical themes associated with it evolve and change over time. It is the ethical issues in the relationship between humans and biodiversity that the authors of this paper have reflected on and set the following research goal: To identify the main ethical dilemmas in the relationship between humans and biodiversity. As this is a purely theoretical topic, the main research method chosen was a qualitative analysis of academic texts from the respected databases Web of Science, Scopus and Open Access, where an extensive search of relevant sources was conducted. 1. What is the historical context of ethics in conservation? 2. What are the ethical considerations in species-specific conservation? 3. What are the ethical challenges associated with sustainable development? 4. What is the influence of cultural and religious ethical considerations? 5. What is the influence of environmental education? Based on the research, the qualitative analysis conducted and the research questions answered, the research objective was achieved and the authors mapped the main ethical dilemmas associated with the relationship between humans and biodiversity. For

a clear and logical presentation of the achieved results, the theoretical part of the manuscript is divided into seven theoretical blocks, four of which contain several more thematic subchapters.

## **Methodology**

The basic scientific method of this thesis is theoretical research and qualitative analysis of theoretical sources. This research and subsequent qualitative analysis involves searching for relevant sources in representative databases such as Web of Science, Scopus and Open Access, studying them, then comparing, selecting and applying the ideas studied (Mbah, MF., et al., 2024). Considering the theoretical ethical-philosophical focus of the publication, the authors of the thesis chose an outline divided into logical chapters and subchapters. This style of presentation is appropriate in the philosophical disciplines of Environmental Philosophy and Environmental Ethics. This theoretical literary form allows for the presentation of the author's subjective thoughts, unlike in the sciences.

## **The historical context of ethics in conservation**

The history of conservation ethics began to take shape in ancient Greece (Muller, H. 2023). Philosophers such as Aristotle reflected on the relationship between humans and nature, leading to the emergence of early ethical theories. These theories addressed the question of how to achieve harmony between natural systems and human society (Katsura, R. 2020). The ideas of these philosophers gradually evolved and contributed to the development of diverse approaches to conservation. The industrial revolution and the increasing human impact on the environment have brought new challenges. In the 19<sup>th</sup> century, the first organizations, such as the Sierra Club, were formed to protect natural resources from unmanaged exploitation (Clay, D., 2024). These organizations emphasized the creation of national parks and preserves, which was crucial to protecting precious ecosystems. This shift led to the development of ethical attitudes that focused on responsible management of natural resources. The second half of the 20<sup>th</sup> century brought about fundamental changes in the perception of conservation ethics. International movements such as Greenpeace have emphasized the importance of biodiversity in maintaining balance on Earth. These organizations linked conservation issues with human rights and global justice (Scherrer, YM. 2009).

## **Current ethical theories and approaches to biodiversity**

**Anthropocentrism vs. biocentrism:** Anthropocentrism focuses on human needs and places them at the centre of ethical considerations. This approach often leads to a view of nature as a resource to satisfy human interests. Critics point out, however, that such a perception underestimates the value of nature as a separate entity with its own right to exist. On the other side is biocentrism, which recognizes the intrinsic value of all living organisms. The biocentric view emphasizes that all life forms have a right to exist and be respected. This leads to a greater emphasis on the protection of biodiversity and the moral responsibility of humanity to protect nature not only for its own benefit but also for the sake of the life forms themselves. The debate between anthropocentrism and biocentrism is central to current ethical theories of biodiversity. While anthropocentrism may be practical for modern development, biocentrism offers a deeper understanding of ecological balance. This debate continues to shape policy and approaches to conservation at a global level (Trempała, W., et al., 2019).

**Ecocentrism and its impact on nature conservation:** Ecocentrism implies a deep understanding of the value of ecosystems as wholes, not just as parts serving human interests. This perspective recognizes nature as a complex network of interconnected processes that have intrinsic value independent of human benefit. The ecocentric approach makes us aware of the importance of respecting natural mechanisms and understanding their role in sustaining life on Earth (Jebari, K., et al., 2022). This approach significantly influences modern conservation practices by promoting integrated strategies aimed at protecting whole ecosystems. Ecocentrism emphasizes the need for sustainable development that takes into account ecological balance and the long-term sustainability of resources. Such initiatives seek to minimize anthropogenic impacts, thereby protecting natural processes and promoting nature's recovery (Von Negenborn, C. 2022). Adopting an ecocentric perspective can lead to more effective conservation strategies. These strategies include habitat restoration and protection, strict regulation of human activities and support for natural cycles. Ecocentrism is gaining popularity among scientists and conservationists who see it as the key to the sustainable survival of our planet.

## **The role of science in ethical biodiversity issues**

Science is a key tool for addressing ethical issues related to biodiversity. It provides the necessary data and analysis to help determine the state of ecosystems and identify existing threats. Scientists use advanced technologies to monitor and study biodiversity, enabling informed conservation

decision-making. Empirical data from scientific research supports the development of ethical frameworks for biodiversity conservation. These frameworks help to formulate policies that take into account the ecological, economic and social aspects of sustainability. Research contributes to a better understanding of the complex interactions between species and the environment, which is essential for effective conservation strategies (Heinen, JT. 2010). Collaboration between scientists and decision-makers plays an important role in implementing ethically responsible solutions. Scientists provide expert advice and support in developing policies that strike a balance between the needs of humanity and the protection of nature. In this way, science becomes a bridge between theoretical concepts and practical measures to safeguard biodiversity for future generations.

## **Human activities and their impact on biodiversity**

**Agriculture and its impact on ecosystems:** Agriculture is one of the main human activities that have a major impact on ecosystems globally. Intensive agricultural practices often lead to soil destruction and habitat disturbance. The use of pesticides and fertilizers can result in the contamination of water sources, which adversely affects aquatic ecosystems and their inhabitants. At the same time, more than 30% of food spoils for various reasons, and their subsequent disposal is another burden on the ecosystem (Vernerová, M. 2022). Despite these challenges, there are opportunities to make agriculture more environmentally friendly. Agroforestry and organic farming are examples of sustainable practices that promote the conservation of soil biodiversity. These practices reduce the need for chemicals and increase biodiversity by integrating different species of plants and animals into agricultural systems (Dauda, L., et al., 2023). The transition to more sustainable farming practices requires collaboration between farmers, scientists and politicians. Education programmes and support can facilitate the introduction of new technologies that minimize negative impacts on ecosystems. This approach is essential to achieving a balance between food production and conservation, which is key to long-term sustainability.

**Urbanization and habitat loss:** Urbanization has a significant impact on habitat loss. As cities expand, the natural environment is often replaced by concrete, which means a loss of biodiversity. Many species are losing their natural homes as urban infrastructure expands. For example, in the US, urbanization has contributed to the loss of 60% of wetlands, which has had a major impact on local ecosystems (Roselli, MA., et al., 2022). These changes also have ethical implications. Companies are faced with the decision of whether to prioritize economic growth over environmental protection. Urbanization brings new challenges to ecosystems that provide key functions such as water purification and oxygen production. The loss of these ecosystems can have long-term consequences for human survival, highlighting the need for careful planning (Xu, X., et al., 2018). Habitat loss also affects cultural and aesthetic values. People's contact with nature is weakened, which can negatively affect psychological well-being and a sense of responsibility towards the environment. It is therefore essential to integrate natural features into urban planning and to promote sustainable urbanization, thereby reconnecting with nature and preserving biodiversity.

**Climate change and its ethical implications:** Climate change, largely caused by human activity, is having a major impact on global biodiversity. Rising temperatures, more frequent extreme weather events and rising sea levels threaten a wide range of plants and animals. The melting of polar ice caps is leading to a loss of natural habitat for species such as the polar bear, increasing their risk of extinction (Ehrlich, G. 2006). The ethical issues associated with climate change are inevitably complex and require deeper reflection. Developed countries that contribute most to these changes often suffer less than developing countries. They face the greatest consequences, even though their share of greenhouse gas emissions is minimal. Such inequity in burden sharing requires equitable solutions and global cooperation (Feng, C., et al., 2023). Climate change also calls for a change in our ethical approach to nature, where economic interests often take precedence over ecological needs. It is essential that politicians and society take responsibility for protecting the planet for future generations. This includes investing in renewable energy and promoting sustainable practices that minimize negative environmental impacts (Bendz, A. 2024).

## **Protection of endangered species**

**Ethical dilemmas in the conservation of specific species:** Conservation of specific species entails many ethical dilemmas, especially with limited resources for conservation. Choosing which species to save can be complicated and raises moral questions. These choices often revolve around the decision of whether to invest resources in saving well-known species such as pandas, or rather support lesser-known species with important ecological roles (Raoufzadeh, N., et al., 2023). Another complication is the issue of ecosystem interventions. The introduction of predators, such as wolves, can help to restore the balance, but can also cause conflicts with humans, especially in agricultural areas. A balance between nature conservation and the needs of local communities is essential here. At times, compromises must be made that take both sides into

account so that conservation does not come at the expense of human needs (Chan, K.M., et al., 2007). The debate often involves the ethics of genetic interventions, such as cloning endangered species or genetic modification. These technologies bring new possibilities but raise concerns about the integrity of nature. A genetic mutation of male mosquitoes called OX5034, where a species that can no longer reproduce, wins is one possibility. Thanks to the global transport of people and food, a highly invasive species of mosquito from Africa has been introduced into Europe (Servick, K. 2019), which outclasses local insect populations, and greatly affects the human population by transmitting deadly diseases such as zika, dengue fever, and yellow fever. But then there is not only the ethical question of whether the birds that feed on these insects will survive. It is therefore crucial that scientific progress is accompanied by ethical consideration and public debate, including a variety of views. In this way, an acceptable balance can be struck between innovation and respect for natural ecosystems (Dresser, R. 2002).

**Legal frameworks and their ethical assessments:** Legal frameworks are the basis for the protection of endangered species, but ethical assessments can reveal hidden problems. While legislation such as the Convention on International Trade in Endangered Species seeks to regulate and protect, its practical application requires complex international cooperation. Effective implementation often proves challenging and requires coordination between states (Pajtic, BL. 2021). Ethics reviews focus on the effectiveness and fairness of laws. It is essential that species protection respects the rights and needs of the human communities that share the environment with them. For example, protecting African elephants means taking into account the interests of local people who may face economic losses due to hunting restrictions. A balance between conservation and human rights is crucial (Khlopina, A. 2023). An important aspect is to assess whether the laws favor some species to the detriment of others. Effective protection requires a comprehensive approach that takes into account ecological and social factors. Ethical assessments should play a crucial role in policy-making to ensure a balance between the needs of nature and humanity, thereby contributing to sustainable coexistence.

### **Sustainable development and its ethical challenges**

**The moral duty to protect:** The moral obligation to protect nature is based on an understanding of the value of all life on Earth. Humans have a responsibility for the environment they share with other forms of life because biodiversity is key to the stability of ecosystems. These ecosystems provide vital services that are indispensable for our survival (Psomiades, KA. 2010). Responsibility towards nature is often embedded in cultural and religious traditions, with many societies considering it a moral obligation. This view is supported by scientific evidence that confirms the importance of ecosystem services such as plant pollination and water purification. These processes are essential to human life and show how closely nature conservation is linked to human survival. The moral obligation to protect is also a question of interpersonal justice, where current generations must ensure that future generations can live in a healthy environment. This requires responsible action and decision-making today, which can lead to fundamental changes in attitudes towards nature. Accepting this obligation means strengthening sustainable development, a commitment we cannot ignore (Jonas, H. 1987). The ethical challenges in conservation allow us to find new ways of working together across sectors. These opportunities lead to more sustainable development where respect for biodiversity is paramount. Contribute to nature conservation and leave a positive footprint for future generations. Every ethical step you take supports a prosperous and responsible society.

**Conflicts between economic growth and nature conservation:** Conflicts between economic growth and conservation represent a major ethical challenge of our time. Economic development is often seen as necessary to improve living standards, but can lead to irreparable damage to natural resources. Mineral extraction, for example, devastates ecosystems and raises questions about the long-term sustainability of such development. The key dilemma is how to strike a balance between economic interests and environmental responsibility. Sustainable strategies should seek to promote economic growth without disturbing nature. The transition to a green economy is one possible solution where environmental factors are integrated into economic activities (Caha, Z. 2018). However, this transition requires not only investment but also a change in the mindset of policy makers and entrepreneurs. It is important that discussions on economic growth include the long-term impacts on our planet. Sustainable development should involve transparent decision-making that takes into account the views of all stakeholders. Involving scientists, environmentalists and local communities will ensure that economic activities are truly sustainable and fair for all.

**The role of communities in sustainable development:** Communities are an essential element in achieving the Sustainable Development Goals. Local people often have unique knowledge of their surroundings, which enables them to contribute effectively to the conservation of nature and biodiversity. A 2020 UN report states that up to 80% of biodiversity is protected by indigenous and local communities (UN, 2024). Their engagement is therefore key to success in achieving the SDGs. Social cohesion and cooperation are essential factors in communities, creating

networks that connect different groups of people. These networks ensure the effective sharing of information and resources, which increases the effectiveness of environmental protection projects. For example, in India, community-based projects have led to forest restoration, which has resulted in increased biodiversity and improved quality of life for local people (Choksi, P., et al., 2023). Supporting communities is a critical element for long-term sustainability as it ensures that conservation is adapted to local needs and traditions. This increases the chances that the measures taken will be respected and adhered to. Communities thus become indispensable partners in the fight against global environmental challenges and contribute to sustainability.

### **Cultural and religious aspects of conservation ethics**

Cultural and religious aspects strongly shape our view of conservation. Diverse cultures approach nature in different ways, often as an integral part of their identity. Indigenous cultures, for example, see it as an integral part of their being, which reinforces their motivation to protect it. This approach contrasts sharply with cultures that see nature primarily as a resource for economic exploitation. Religious traditions often shape our ethical attitudes towards nature. Many religions hold nature sacred and demand its respect and protection. Hinduism and Buddhism, for example, emphasize harmony with nature and respect for all beings. Christianity, Judaism, and Islam also contain elements that promote a responsible attitude towards natural resources, which can have a significant impact on their conservation (Pierotti, R., et al., 2000). Taking these cultural and religious aspects into account can significantly increase the effectiveness of environmental programmes. Respect for local traditions and values can strengthen cooperation with communities and increase their commitment. This approach contributes to more sustainable and ethically responsible solutions to environmental challenges, thereby helping to sustainably protect natural resources.

### **Education and awareness of ethical issues**

Education is essential to deepen ethical awareness in conservation. Schools and universities can encourage students to think about environmental issues from an ethical perspective, which helps develop critical thinking. UNESCO stresses that the inclusion of environmental education is crucial for sustainable development and thus a better relationship with biodiversity (Dorn, C. 2020). As awareness of ethical issues increases, individuals can become more active environmental advocates. Understanding the consequences of one's own behavior on nature motivates sustainable choices. Examples include initiatives to reduce plastic waste, which can be successful if they include an explanation of the ethical aspects of ocean pollution (Dorn, C. 2020). The media and public debate are powerful tools for spreading ethical awareness of nature. Media campaigns can reach the general public and change their behavior towards natural resources. Effective education and awareness-raising are therefore essential to address environmental challenges and promote ethical responsibility.

### **Discussion and Conclusion**

Understanding the ethical challenges of nature and biodiversity requires a holistic approach that involves collaboration between different sectors of society. Educational institutions, community groups and faith-based organizations must work together to deliver effective solutions. Each of these elements plays an important role and contributes to efforts to achieve sustainable development. The importance of ethical issues should be mentioned in public debates, where discussions about ethics in conservation can transform the attitudes and actions of individuals. Informing society about the impact of human actions on the environment strengthens commitment and responsibility. It is essential that individuals and organizations take responsibility for their actions towards nature. While these challenges are difficult, they also offer the possibility of positive change. By applying ethical principles, a balance can be struck between economic development and nature conservation. Preserving the planet for future generations and ensuring its biodiversity is a goal to be achieved. The authors of this paper have set as a research goal - to identify the main ethical dilemmas in the relationship between humans and biodiversity. Qualitative analysis of scientific texts was chosen as the basic scientific method. To achieve the research objective, the authors asked the following research questions: 1. What is the historical context of ethics in conservation? 2. What are the ethical aspects in the conservation of specific species? 3. What are the ethical challenges associated with sustainable development? 4. What is the influence of cultural and religious ethical considerations? 5. What is the influence of environmental education? Based on the qualitative analysis conducted, it can be concluded that ethical inquiries have been recorded since Antiquity and the themes have changed with the development of culture and philosophy. Quite interesting ethical aspects are connected with the protection of specific species, where we encounter the basic ethical question - justice. The term sustainable development is particularly associated with an anthropocentric approach. Here one can identify with the philosopher Hans Jonas' premise of the moral obligation of humanity to accept responsibility for the state of the environment. A considerable influence of cultural and religious aspects on the human relationship with the environment can be observed. Indigenous religions are very often directly linked to nature, the cult of mother earth and the natural elements. Even the great and widespread religions such as Buddhism and Hinduism direct the affiliation of human beings to natural communities. Environmental



education towards an ethical relationship between humans and nature is a necessary and effective social tool for environmental protection. The topic of environmental ethics is already fairly well represented in the Web of Science and Scopus databases, but these are often general and retrospective works. The present work is, however, particularly original in the way it explores specific ethical aspects. It can, of course, be assumed that ethical aspects of the relationship between humans and nature will continue to evolve as history shows. However, the premise of man's responsibility, as steward of creation, for the state of the environment is a perennially valid one.

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## **Conflict of Interest**

There is not conflict of interests.

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