ENVIRONMENTAL ETHICS AND PROTECTION OF BIODIVERSITY

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This paper concerns ethical relationship of human beings with the natural biodiversity. The activities of human beings are always affected by our principles. It is about the idea of realizing the morals of the environmental biodiversity and accepting it. The paper explores the abstract thought of human values and values in Nature. The idea of ethics from an environmental perspective is examined and some issues which are at the heart of many controversies are addressed to solve our real-world problems.

When we talk about environmental ethics to protect biodiversity, we hope to define certain set rules and principles that should be followed in consideration with the natural diversity. By whom? By the human race. Environmental ethics believe that humans are a part of the natural environment which is composed of a countless of components in dynamic relationships. It is essential that every human being respect and honour a wide range of genes and species within an ecosystem and use morals and ethics when dealing with the natural resources of life.

Environmental ethics builds on scientific understanding by bringing human values, moral principles, and improved decision making. We not only need to encourage empathy and cultivate respect for our fellow human beings, but also for non-human variety of life such as plants, animals, birds, insects, algae & fungi and their environments. The more biodiversity an area has, the healthier it is!

The discipline of environmental ethics has a primary goal of achieving a unified ethic that provides moral agents (humans) with a guide for interaction within the environment1.

Environmental ethics are key features of environmental studies which have application in many other fields as human society struggles in a more meaningful way with pollution, resource degradation, the threat of extinction, and global climate disruption2.

In the most general sense, environmental ethics invites human beings to consider three key propositions3:

1. the Earth and its creatures have moral status, in other words, are worthy of our ethical concern;
2. the Earth and its creatures have intrinsic value, meaning that they have moral value merely because they exist, not only because they meet human needs;
3. drawing from the idea of an ecosystem, human beings should consider “wholes” that include other forms of life and their environment.

Thus, environmental ethics include a moral consideration of the human approach to biodiversity conservation. Human beings are a part of the life and so are the other living beings. Talking about the philosophical principles that guide human life, human beings often ignore the fact that plants, animals, algae, fungi, bacteria and micro-organisms are a part of their lives. They are an integral part of the environment and hence cannot be denied their right to live. Respecting the existence of not just other humans but also the non-human entities, and recognizing their right to live is ethical for all human beings.

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Major Ethical Issues and Possible Solutions

Consumption of Natural Resources: Natural environment on earth is a reserve of resources that are crucial to the existence of life. When we exceed a renewable resource’s natural replacement rate, the available supply begins to shrink, a process leading to diversity decline and changes in climate. Examples include urbanization of productive land, groundwater depletion, overgrazing of grasslands by livestock, and loss of valuable species etc. Humans today extract and use around 50% more natural resources than only 30 years ago4. The unsustainable consumption of natural resources is risking the life of our future generations. Is this ethical?

The first step to the solution of this ethical issue is to admit that we have serious environmental issues. People must understand that our natural environment is not an unlimited storehouse to pick up diverse resources from. One solution is to use free-access resources at rates well below their estimated sustainable yields by reducing population, regulating access to the resources, or both. Some communities have established rules and traditions to conserve biodiversity and share their access to common-property resources such as ocean fisheries, grazing lands, and forests5. Some governments have also enacted laws and international treaties to regulate access to life resources such as forests, national parks, rangelands, and fisheries in coastal waters6, 7.

Another solution is to convert free-access resources to private ownership. The reasoning is that if you own something, you are more likely to protect your investment. This sounds good, but private ownership is not always the answer. One problem is private owners do not always protect natural resources they own when this conflicts with protecting their financial capital or increasing their profits. For example, some private forest owners can make more money by clear-cutting the timber, selling the degraded land, and investing their profits in other timberlands or businesses. A second problem is that this approach is not practical for global common resources such as the open ocean, most wildlife species, and migratory birds that cannot be divided up and converted to private property8.

In order to continue to thrive on earth, human lifestyles will need to become more sustainable, so that we are able to protect the range of different living things and the fragile eco-systems on our planet. An equitable sharing of resources forms the basis of sustainable development for urban, rural and wilderness-dwelling communities. This requires rethinking the role of economic growth and the links between resource use, quality of life and happiness.

Destruction of Forests: When industrial processes lead to destruction of resources, is it not the industry’s responsibility to restore the depleted resources? Moreover, can a restored environment make up for the original one? Mining processes disrupt the ecological balance in certain forests. They harm the plant and animal life in those regions. Slash-and-burn techniques are used for clearing land, which leads to the destruction of forests and woodland9. But is the loss of so many life forms compensated for? However, the cutting down of trees is seldom even considered as loss of lives. This is an environmental ethics issue.

Human beings can live more sustainably by becoming environmentally literate, learning from Nature, living more simply and lightly on the earth, and becoming active environmental citizens. Deforestation can be prevented through proper management and regulated harvesting, as well by reducing the demand for products and services contributing to deforestation. This requires the cooperation of industry, governments and citizens to achieve a balance between the available resources and how to sustain them.

Environmental Pollution: Many human activities lead to environmental pollution. As the population is exceeding the carrying capacity of earth, animal and plant habitats are being destroyed to make space for human habitation. Huge constructions including roads and buildings for residential and industrial use are being made at the cost of the natural environment. Increasing pollutants can have many types of unwanted effects. First, they can disrupt or degrade life-support systems for humans and other species. Second, they can damage wildlife and human health. Third, they can be nuisances for living creatures in one way or another such as noise, unpleasant smells, tastes, and sights10. It is of great concern that large inputs of carbon dioxide, methane and nitrous oxide into the atmosphere have lead to global warming affecting the habitats of several species, which must either adapt or migrate to areas with more favourable conditions. It is unethical.

Human beings can try to clean up pollutants in the environment or prevent them from entering the environment. Two basic approaches can be used to deal with pollution. One is pollution prevention, or input pollution control, which reduces or eliminates the production of pollutants. The other is pollution cleanup, or output pollution control, which involves cleaning up or diluting pollutants after they have been produced. Both pollution prevention (front-of-the-pipe) and pollution
cleanup (end-of-the-pipe) solutions are needed11. But environmental ethics urge man to put more emphasis on prevention because it works better and is cheaper than cleanup. As Benjamin Franklin observed long ago in 1735, “An ounce of prevention is worth a pound of cure.”

**Harm to Animals:** Due to habitat loss, animals may enter human settlements, thus posing a threat to the people living there. In some cases, these animals are killed. Secondly, animals serve as food source of humans, for which they are killed. Also, animal studies cause harm to animals and even their deaths12. This destruction has led to the extinction of many animal species. The reduction in the populations of several other animal species continues. How can we deny the animals their right to live? How are we right in depriving them of their habitat and food? Who gave us the right to harm them for our ease? These are some of the ethical environmental issues that need to be addressed.

Human beings should aim to treat animals in the way that is best for the animals concerned, where this does not conflict with what is best for human beings. It is wrong for humans to disregard the consequences to animals of their actions. Nonhuman animals taken from the wild should be trapped in a humane manner and in accordance with applicable federal, state and local regulations13, 14.

The use of animals in research and education has attracted ethical concern for many years, most notably in toxicology and bio-medical studies. Many countries already have legislation regarding the use of animals in research. Animal experimenters should be aware of this ethical problem and acknowledge that experiments should be made as humane as possible. They should agree that it’s wrong to use animals if alternative testing methods would produce equally valid results. What is relevant is the ethical approach of the experimenter to each experiment. The guiding principles of three Rs of Reduction, Refinement, and Replacement for the welfare of animals used in research should be properly followed15.

Reduction: Reducing the number of animals used in experiments by:
- Improving experimental techniques
- Improving techniques of data analysis
- Sharing information with other researchers

Refinement: Refining the experiment or the way the animals are cared for so as to reduce their suffering by:
- Using less invasive techniques
- Better medical care

- Better living conditions

Replacement: Replacing experiments on animals with alternative techniques such as:
- Experimenting on cell cultures instead of whole animals
- Using computer models
- Studying human volunteers
- Using epidemiological studies

As Mahatma Gandhi (1869–1948), one of India’s most revered spiritual and political leaders, observed, “We must become the change we want to see in the world.”

**Instrumental vs. Intrinsic Value of Non-human Entities:** An important point that the field of environmental ethics is concerned with, is whether non-human beings only have an instrumental value or whether they also have an intrinsic and natural value. Some environmental worldviews are human-centered (anthropocentric), focusing primarily on the needs and wants of people; others are life- or earth-centered (bio-centric), focusing we have *prima facie* moral obligations that are owed to wild plants and animals themselves as members of the Earth’s life forms.

Human beings are to understand and evaluate critically the environmental world views. The life- or earth-centered worldviews are more practical than human-centered worldviews. Human beings should not exploit the environment. Nobody gives him the right to rule every being on Earth16.

One earth-centered worldview is called the environmental wisdom worldview. According to this view, we are within and part of-not apart from-the community of life and the various ecological processes that sustain all life. This view holds that the sustainability of our species, civilizations, and economies depends on the sustainability of the varied life forms, of which we are just one part17. Thus, promoting global sustainability helps each of us to safeguard our own individual health and safety, as well as our future as a species.

Aldo Leopold, an American environmentalist, believes humans to be the most important in the universe. There are no existential differences between the human and non-human entities in nature, which means humans are not more valuable than any other component of the environment. Humans as well as plants, animals, and other constituents of nature have an inherent value. They are entitled to respect but not rights.
Thus, part of the issues emerges from human ignorance about how the earth works, what we are doing to its life-sustaining systems, and how we can change our behavior toward the earth.

**Obligations to Future Generations:** Another important point in relation to environmental ethics is of our moral responsibility to preserve Nature for our future generations. This ethical issue must be considered when we decline diversity unsustainably risking the lives of future generations. Is it not our duty to leave a good environment for them to live in?

To deal with this issue, human beings must know the difference between need and greed. All that is vital to support life-protection and living are food, shelter, clothing, education and health management. The want for more and more is leading us to “greed” that knows “no end”. It is important to understand what ‘growth’ really means. Is it growth that is sustainable in the long term or growth that is badly impacting on everyone? If growth is positive, why are environmentalists opposed to it? Can greed ever be green? The main ingredients of ethics are caring about the planet and all of its inhabitants, allowing unselfishness to control the immediate self-interest that harms others, and living each day so as to leave the lightest possible footprints on the planet. Ethicists urge us to reconnect with and learn directly from Nature as an important way for us to help sustain the earth’s precious biodiversity and our own species and cultures.

**The Ethical Basis of Environment Education and Awareness:** The most important issue is related to creating an ethos that will support a sustainable lifestyle in society. Every individual at school and college level must be exposed to a course on environment conservation. There are two aspects that are closely connected with ethical issues that are related to life support systems. These are based on valuing Nature as a resource and appreciating the beauty of natural world and treasuring the glory of the biodiversity. We need an effective environmental education which can develop rationale thinking for natural diversity, a positive feeling for biosphere and right action for the protection of environment. Environment education must foster a desire to make the world a better place and act on this desire.

The teachers are expected to organize programmes and activities some of which are unique applications of attitude, behavior and skills to Environment education, while the others are general education competencies relevant to Environment education as well as to other disciplines. Teachers can arrange indoor and outdoor programmes to play an important role in the formation of healthy environment. They can make important contribution not only to the student community but also in an expanded area of global society. They should taught students the skills to infuse environmental concepts in their life to invest human potential for betterment of present environment and to handover that better environment to future generations.

One of the best ways to introduce children to Environment education is through animals. Children have a natural affinity for animals and can be taught very early to be gentle with them and understand their needs. Purposeful activities that involve the children as naturalists and caretakers can instill values of the humane treatment of animals. Appropriate activities indoors include having an aquarium (for fish, frogs, or snails) in the school, watching birds at a window feeder, caring for an ant farm, and keeping certain animals as pets. Schools should consider regulations, facility or habitat available, cost of care, handling opportunities, cultural norms, and safety when choosing a pet. Use more than cages to create real habitats and homes for classroom pets.

Natural resources that can be used in school environmental education programs: Live plants (no poisonous plants), Shells, Wood chunks or slices, Stones, Stumps, Herbs, Pinecones, Flowers, Seeds, Sand, Sticks (twigs, bamboo), Water, Rocks and minerals. These natural components can be used to create habitat, for sound- and music-making, for arts and crafts, in gross motor skill development (balancing, mimicking), decorating walls, as area dividers and cooking components. They can also be used in manipulation for math skills (grouping, sorting, ordering, classifying, counting), sensory experiences, and scientific enquiry.

Outdoor programmes focus on the ‘green’ environment with a hope that school children will develop the skills and attitudes to enable them to make informed decisions about environmental issues. The activities depend to a large extent on direct experience of different environments, and multi-sensory approaches to learning. Improved observation skills, excitement about learning, positive social interactions and physical exercise are also the benefits.

Outdoor programmes may include: Experimentation on Resource Use, Action Projects, Observations on local environment, Family Activities, Nature Walk, Visit to Environmental Stores, EE Games etc.

Some creative programmes like Celebration of Special Days, Student Clubs, Extension Lectures, Discussions and Debate, Eco-Arts, Role play, Eco Boys and Girls for Publicity, Waste-Free Lunch, Films, Hoardings and Posters,
Magazine articles, Nature stories, EE Songs, Puppet show, Encouraging Special Movements, Collection of materials for Recycling etc. can be organized to develop environmental understanding and ethics of students.

**Conclusion**

Most people recognize that our planet is in a bad way and we all seem to have an opinion on biodiversity issues, such as habitat reduction, over-harvesting, trade in wildlife or resource-use conflicts. The importance of environmental ethics is brought home daily by the news of pollution and its effect on our lives, both now and in the future. The existence of Nature is the proof of our own existence. Human beings must appreciate the life because of forest, flora, and fauna, but unfortunately, these can be misused and end up being harmed. In recent years awareness of the vulnerability of the environment has increased and the moral need to protect it against the environmental hazards has been recognized. The environmental ethics outlines our moral obligations in the face of environmental concerns. Their practical purpose is to provide moral grounds for social policies aimed at protecting the earth’s biodiversity and remedying environmental degradation.

**Declaration**

It is declared that the article is original, has not been published earlier, and has not been submitted for publication elsewhere.

**References**

1. R. Routley, Is there a need for a new, an environmental ethic? Proceedings of the 15th World Congress of Philosophy, 1, 205-10, September 17-22, Varna, Bulgaria, (Sofia Press, Sophia, 1973).
2. J.R. DesJardins, Environmental Ethics: An Introduction to Environmental Philosophy, (Calif: Wadsworth, Belmont, California, 2013) 5th edition.
3. J.R. DesJardins, Environmental Ethics: An Introduction to Environmental Philosophy, (Calif: Wadsworth, Belmont, California, 2006) 4th edition.
4. WHO, Our Planet, Our Health, Our Future. Human health and the Rio Conventions: biological diversity, climate change and desertification. Discussion paper, (Public Health & Environment Department, World Health Organization, Geneva 27, Switzerland, 2012).
5. R. Wade, The management of common property resources: collective action as an alternative to privatisation or state regulation, *Camb. J. Econ.* 11, 95–106 (1987).
6. R.S. Meinzen-Dick and M.D. Gregorio, Collective Action and Property Rights for Sustainable Development, (International Food Policy Research Institute, Washington, USA, 2004).
7. B. Boer and S. Gruber, Legal Framework for Protected Areas: Australia. IUCN-EPLP No. 81 (CMSDATA, Australia, 2010).
8. G.T. Jr. Miller and S.E. Spoolman, Essentials of Ecology, (Brooks/ Cole, Cengage Learning, Belmont, USA, 2009). ISBN-13: 978-0-495-55795-1
9. D.A. Wardle, M. Jonsson, S. Bansal, R.D. Bardgett, M.J. Gundale and D.B. Metcalfe, Linking vegetation change, carbon sequestration and biodiversity: insights from island ecosystems in a long-term natural experiment, *J. Ecol.* 100, 16–30 (2012).
10. P.C. Stern, T. Dietz and L. Kalof, Value orientations, gender and environmental concern, *Environ Behav.* 25,322–348 (1993).
11. J.M. Spiegel, Environmental pollution control and prevention. Encyclopedia of Occupational Health and Safety, (International Labour Office: Section 55, Geneva, 1998) 4th edition, Vol. 2.
12. G.N. Bryan, M. Hutchins, E.F. Stevens and T.L. Maple, *Ethics on the Ark: Zoos, Animal Welfare, and Wildlife Conservation*, (Smithsonian Institution Press, DC, Washington, 1995).
13. N.K. Dess and R.W. Foltin, The ethics cascade, In: Laboratory animals in research and teaching: Ethics, care, and methods (eds. C.K. Akins, S. Panicker and C.L. Cunningham), DC, APA, Washington, pp. 31–39 (2004).
14. National Research Council, Guide for the care and use of laboratory animals, (The National Academies Press, DC, Washington, 2011) 8th Edition.
15. D.M. Ibrahim, Reduce, refine, replace: the failure of the three R’s and the future of animal experimentation, Arizona Legal Studies Discussion Paper No. 06–17, (Legal Forum, University of Chicago, 2006).
16. Jr. Lynn White, The Historical Roots of Our Ecologic Crisis. *Science, New Series* 155 (3767), 1203–1207 (1967).
17. D. Rowe, Environmental Literacy and Sustainability as Core Requirements: Success Stories and Models, In: Teaching Sustainability at Universities: Towards Curriculum Greening (ed. W. Leal Filho), Peter Lang: Frankfurt, pp. 79–103 (2002).
18. R.E. Second and M.C. Slaby, Generating the Renewable Energy of Hope - An Earth Charter Guide to Religion and Climate Change, (Jacob Soetendorp Institute for Human Values, The Netherlands, 2009).
19. G. Tan, *Ecological Virtue Ethics: Towards Conversion and Environmental Action*. Boston College Electronic Thesis for the S.T.L. Degree, School of Theology and Ministry (2017).
20. R.J. Wilke, R.B. Peyton and H.R. Hungerford, Strategies for the Training of Teachers in Environmental Education, Division of Science, Technical and Environmental Education, UNESCO: Paris, France (1980).