

Environmental Ethics: Toward an Islamic Perspective

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Abstract: These days, the environmental crises endanger human being and other living organisms. Available evidence indicates that technical solutions have not been resulting in satisfactory outcomes. Therefore, answering the question of “how should human behave toward the natural environment” is remained most important. Among theoretical considerations, environmental ethics is getting more attention to find a proper solution for extensive environmental degradation. Since environmental ethics is essentially based on intrinsic value and beliefs, religions have been getting more recognized to define proper environmental ethics mainly because they try to illuminate what possessed intrinsic value and also what is the criterion for evaluating a behavior toward nature as moral one? This article, after discussing basic concepts of environmental ethics and also a short overview of environmental ethics approaches, presents an Islamic perspective of environmental ethics. It concludes when environmental ethics is based on an Islamic theocentrism and theology, it is possible to have more comprehensive and holistic approach toward conservation of the natural environment.

Key words: Environmental ethics % Islam % Nature conservation% Religion % Theology

INTRODUCTION

The natural environment is being treated by human race that has had to fight it for making better economic development. Technology has been endowing human the power of a major geological agency, which may act on a continental or even planetary scale [1]. The human power with legendary progress in science and technology is a major threat to stability of the environment and this threat can be best understood when we know that human being has been seeing himself as idol. Furthermore, humans in modern age do not have proper and enough bridles for their behavior toward the natural environment [2]. Observed unknown changes in the physical and natural environment and the incidence of environmentally-harmful events over the last few decades have heightened the need for being aware about threats to the environment and its capacity to provide a sustainable life for human being and other creations. Therefore, some questions have been raised and grave doubts expressed about the environment's capacity to continue enduring its exploited status [3].

Some believed that we are becoming increasingly aware that we cannot continue to use the goods of the world as in the past [4]. In this respect, we need to strike

a more collective bargain over our behavior toward nature than scientific information about how much we damage the earth. Changes in human being behavior are necessary; hence the need for codes of conduct based on the ethics of the environment to correct the relationship between man and nature [1]. But we faced with the dilemma of how to prevent overuse and depletion of natural resources when individuals desire to maximize their gains [5]. The challenge is not so much in how to live in accord with nature. The real challenge is in how to get subjects to agree on how to live in accord with nature [6].

As Benson [7] mentioned, the literature on Behavior and Attitudinal Studies about the roots of the environmental degradation is very limited. There is also a limited speech on historical root of the environmental crisis that is related to ethics i.e., value, “ought to” and “ought not to toward nature”. It is not adequate to mention the environmental lost and necessity for preservation, whereas there is not any regard to values and beliefs in form of most possible intensive philosophical and moral ones. Hence, understand ethics is fundamental to understanding the crisis that afflicts society today [8] and most scientists and environmental specialists believe that environmental conservation is an important ethical matter [9].

Although, ethic is traditionally concerned about relations between individuals, but the ethics that regulates mutual relations of human with the land, animals and plants (i.e., nature) are not existed yet. Extension of ethics upon this third component in human environment is an evolutionary opportunity and environmental necessity [10]. The investigating relationships with nature in shape of ethical matter is related to recent age and environmental ethics only recently began to gain support in the 1960s with the growing popularity of the environmental movement [5]. There are several reasons for the attention to environmental ethics. One reason can be found in this reality that ethical guidelines and worldviews can have significant influence on individual and collective behaviors [11]. Environmental beliefs or worldviews, as underlying a system of attitude and beliefs about human-nature relationships, determine behavior toward environment and make referential framework which is used when interacting with the environment [12]. In this respect, this article aimed to provide a brief overview of fundamentals and common approaches of environmental ethics and introduce a framework for environmental ethics from an Islamic perspective.

FUNDAMENTALS OF ENVIRONMENTAL ETHICS

The question weather nature or its components should be of concern is closely connected to the question what kind of ethical principles should apply to the human-nature relation. The values of underlying philosophy are expressed in the ethical guidelines for the relation, thus, it is important to clarify the underlying philosophy of human-nature interaction [13]. Ethics is the philosophical study of right and wrong conduct and the rules and principles that ought to guide it [14]. Ethics deals with issues of good versus evil behavior and hence defines acts which are morally permissible or obliged [15].

There are two basic questions in any ethical theory. One is "What kinds of things are intrinsically valuable?" and the other one is "What does make an action to be right or wrong?" [16]. Answering the first question defines what possesses moral standing and thus what has privilege of ethical obligations. In traditional ethic, human has moral standing because he/she is only being that possessed intrinsic value and there is no difference between the ethicists. Whereas propounding environmental ethics needs to examine human values versus nature world values, the debate on environmental ethics is thus largely concerned with finding out whether intrinsic value in non-humans is possible or even necessary in order to develop universal theories why

humans should protect their natural environment [17]. Therefore, several points of view can currently be identified. These views arise from philosophical considerations about what has moral standing possesses intrinsic or value in the world and why [18]. Value theory as applied to environmental ethics distinguishes between instrumental and intrinsic values for individual organisms and populations, species, biomes, ecosystems and even insentient landscapes [11]. Instrumental value usually compare with intrinsic value. Instrumental value means useful for human to obtain something else. For example, nature has instrumental value if human sees the nature as a source for satisfying his/her needs. The environment has intrinsic value when it is valued for itself not for others [19].

Traditionally, environmental ethics in the West has been split between anthropocentric ethic and sentience-based ethic, which includes the higher animals in the moral domain. In the last fifty years, however, a deeper debate has arisen between nature objectivists and value subjectivists. The former hold that nature has intrinsic value and the latter maintain that all value demands an evaluator [20]. In relation to value orientation, some attempt to distinguish between three environmental value orientations [21-23]: First, the egoistic value orientation in which environmental problems may harm the individual; second, the social-altruistic value orientation in which problems may harm other people and third, the biocentric value orientation in which nature has intrinsic value and rights, independent of human interests. We can use the terms social-altruistic and anthropocentric interchangeably, as we do biocentric and ecocentric [21]. The social-altruistic and egoistic value orientations both are expressions of human interests in avoiding damage to the environment, thus, the two types of orientations can be regarded as one type, named the anthropocentric attitude [23]. Therefore, in contemporary environmental philosophy, the most fundamental source of divergence arises between the anthropocentric and non-anthropocentric view. An anthropocentric ethic alleges that only humans have moral standing and that environmental degradation matters only in so far as it influences human interests. Proponents of a non-anthropocentric ethic reject this assumption and attribute moral standing either to other living organisms or to the ecosystem as a whole, contending that effects on the environment matter irrespective of their consequences for humans [14].

To answer the second question, i.e., "What does make an action to be right or wrong?" it should be defined

what action is right or wrong ethically. Each philosophy thought and related ethical theory answers this question differently. These answers might be controversial because of its ontological and epistemological bases. Although there are not a few approaches to environmental ethics, but there are three main approaches to normative ethical decisions that are diverse enough to cover the range of issues. Most importantly, they differ with respect to the principles and rules they use to differentiate right from wrong and the ways in which they balance ends and means [14, 24]. These approaches are "utilitarian ethic"; "deontological ethic" and "virtue ethic".

Utilitarian ethic is perhaps the most famous form of consequential ethic in which the moral value of a conduct is judged by which the good is essentially the useful, in terms of promoting human happiness. In contrast to utilitarianism, deontological ethic takes the view that the moral value of an action is independent of its actual consequences; depending primary on the type of act that it is. Thus deontological ethic claims that the ends can not justify the means. Virtue ethic takes the vices and virtues as criteria for evaluating human conduct. In this ethical approach, the conducts of virtuous individuals are used for evaluating human actions and the character of whom doing an act in a very honest and moral way, determines whether an act can be considered as good or not. When, human does an action with the right motivation and also does it by reason of virtue, thus she/he does virtuous and then ethical action.

ENVIRONMENTAL ETHICS APPROACHES

With respect to two basic questions in ethics, namely questions about "center of value" and "basis of evaluation", it is possible to distinguish a *spectrum* of approaches in which the types of right and wrong behavior toward the natural environment are defined. These approaches should be considered as manifestation of efforts to expand moral standing to nature and non-human world. The most common of these approaches are conservationism, preservationism [25], social ecology, animal rights, land ethic, deep ecology, ecofeminism, stewardship, sustainable development and sustainability [16].

Conservationism and preservationism are often associated with resourcism. Resourcism has generally been described as a set of utilitarian ethic which sees the maximization of human welfare as the basis of good action. It includes all ethical positions which see nature as a vast resource reservoir for human use. In conservationism, various components of the environment need to be

protected only when, or because they have known economic value. Conservationism is thus guided by cost-benefit analysis and market imperatives. Unlike conservationism, preservationism rejects strict economic valuation of nature. This ethical position prescribes natural preservation for the purposes of ensuring diversity of species and for maintaining beautiful natural systems [3].

Social ecology emphasizes present ecological problems arises from deep-seated social problems and these problems cannot be clearly understood, much less resolved, without resolutely dealing with problems within society. Social ecology calls upon us to see that nature and society are interlinked by evolution into one nature that consists of two differentiations: first or biotic nature and second or human nature [26]. Social ecology employs critical theory to interpret ecological destruction as a manifestation of human alienation from nature. According to this view, alienation is caused by a narrow positivist conception of rationality as an instrument for pursuing power, which critical theories would replace or reconcile with the aesthetic, moral, sensual and expressive aspects of human nature [27].

Animal rights attaches intrinsic value to life. This ethical view propounds whether we should respect animals and what kinds of animals should be possessed respect and ethical considerations. Some environmental ethicists suggest that the notion of rights and duties should be extended to the animal or biological kingdom. Supporters of animal rights argue that, like humans, some non-human animals have consciousness or self-awareness and a capability for reasoning [14]. They with defending of ethical rights of some animals, have believed that the fault should be found in the system which allows to see animals like resources for us whereas, animals have rights as same as humans.

Land ethic states that we need not to act upon conscience between people, but the problem is the need to generalize conscience from individuals to land. In this approach, the role of *Homo sapiens* changes from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members and also respect for the community as such. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively the land. Approaching to such view of land needs to consider land as a biological mechanism. In land ethic view, a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise [28].

Table 1: Environmental ethics approaches regarding the two basic questions of ethics

Center of value	Basis of evaluation		
	Teleological (Consequences)	Deontological (Duty)	Ontological (Virtue)
Anthropocentric	Conservationism	Preservationism	Social ecology; sustainable development
Biocentric	-	Animal rights; land ethic	-
Ecocentric	Deep ecology	Ecofeminism	Stewardship; sustainability

Source: [27]

Deep ecology separates all efforts to environmental preservation in two distinct of shallow and deep movement categories. Former movement aims to preserve environment and fight against pollution and dissipation of resources for make an increase in health and affluence of people in the developed countries. Deep ecology claims that it is more useful than shallow ecology and accepted that move toward deep ecology is an obligation. The deep ecology's motto is "simple in means, rich in ends". This ethical approach describes the principles in which convergence of all workers in preserving nature with pivot of ecology can be propounded. These principles are: rejecting human domination over nature; biospherical egalitarianism; biodiversity and coexistence; anti-class posture; fight against pollution and resources dissipation and also local autonomy and decentralization. Deep ecology seeks self-realization through unity with other things and claimed that an individual can form a unity by species, ecosystems and landscapes. Self-realization, at end of its ultimate perfection, means see identification in diversity that can be compared with alienation [29].

Ecofeminism considers connections between feminism and ecology. It sees the theme of dominance operating in the relationships of men over women and humanity over nature. Ecofeminism is revolutionary in that it promotes the overthrow of both types of dominance, for each is oppressive. Ecofeminists argue that these two kinds of oppression are inextricably connected. They must be addressed together, rather than in isolation and to that end we must radically revise our understanding of gender and nature [30]. In ecofeminism any feminist theory and any environmental ethic which fails to take seriously the twin and interconnected dominations of women and nature is at best incomplete and at worst simply inadequate [31].

Stewardship emphasizes on human steward toward all God's creations and preservation of them. Many believe that earth and its resources are from God. This ethical approach confirms this besides it also argues that we are not landlord of the earth and our domination over earth

has not been absolute yet, rather we have only been given the responsibility to take care of all creations. We are only stewards, called to rule creation "in holiness and wisdom", as God would and when we fail to do so, the earth suffers [4]. In stewardship, humans take responsibility for conserving resources which are being used everyday. This responsibility causes human to use natural resources in a sustainable way in which others (humans and non-humans) are able to use needful resources.

While the concepts of "sustainable development" and "sustainability" are not typically considered ethical approach, they could be described in these terms [27]. Sustainability can be considered as international interdisciplinary efforts for combining economic and ecological goals [32] which should involve intergeneration equity [33]. Sustainable development is anthropocentric, because it advocates the use of scientific and technological power in the name of sustainability, informed by an instrumental view of nature that maintains the ontological distinction between people and nature [34]. The dictum articulated for sustainable development in the report of the Brundtland Commission, "meet the needs of present without compromising the ability of future generations to meet their own needs" and has alternatively been cast as a recipe for virtuous living. However, sustainability moves beyond the anthropocentric origins of sustainable development to arrive at an ecocentric theory not dissimilar to the stewardship ethic [27].

Concerning above mentioned environmental ethics approaches, it is possible to compare them regarding two basic questions of ethics (Table 2).

RELIGIOUS VALUE ORIENTATION

For many, separation between worldly living and religion can be considered as the mainroot of environmental crisis. Admittedly, religions help to shape our attitude toward nature. They also suggest how we should treat other humans and how we should relate to

nature. Thus, religions shape worldviews and ethics which underlie fundamental attitudes and values of different cultures and societies [35]. Religious values and ethical beliefs form behavior toward others, including our relationship with all creatures like plant and animal life [36]. Therefore, some believe that environmental crisis is indeed a religious or moral one [37] and getting return back to religious tradition is the main solution [38].

Excoriating review on new science and technology has been helping religion to be got more attention with regard to environmental preservation. For example, Nasr [39] believes that there is no sensible link between science and ethics. Furthermore, current ethics, mostly Christian, is compatible with worldview of the new science in present new world. Under this circumstance the result can be seen in environmental crisis whereas dominant scientific worldview could not produce satisfactory result and all efforts to formulate a proper environmental ethics have little effect on preventing the environment from being damaged.

World viewpoint about religion has changed since last two decades and religions are considered to be effective in solving environmental crises [40]. Available evidence indicates that humans are more prepared to acknowledge religious teaching than the past. The time is thus propitious to investigate of the potential contributions of particular religions toward mitigating the environmental crisis, especially by developing more comprehensive environmental ethics for the earth community [35]. This reality helps us to go forward to another center of value can be found in "Theocentrism". Theocentrism is a God-centered approach to the world. It also comes from those religious faiths in which God and only one God, is creator and sustainer of the earth such as Islam, Christianity and Judaism [41].

In Islam, like Christianity and Judaism, taking care of the environment is a matter of concern. However, some believed that these religions are largely anthropocentric and view nature as a being of secondary importance. Proponents of these religions might say that the particular attributes of human do indeed place her/him on a different plane from the other creatures; but this gives human a special responsibility toward the natural environment through responsibility in the direction of God. Such responsibility will not certainly ignore possible consequences for other living organisms in decision making for the environment. Furthermore, there are rich resources for rethinking views of nature in the covenantal tradition in the vice-regency concept of the Qur'an, the sacramental theology of the Hebrew Bible and in Inca national Christology [35].

THE ISLAMIC PERSPECTIVE

In Islam, the true owner is God and anything owes its existence to Him. Besides, human behavior toward the natural environment is evaluated based on following God's command. As a result, the center of value in Islam is directly related to theocentrism. Furthermore, intrinsic value only belongs to God and value of other things is being defined in relation to Him. Then, all live and inanimate things possess value and human is then responsible for taking care of nature and all its components. In this view, the evaluation criteria for an act can be defined by deontology. Human action is ethically right when she/he does her/his duty just according to God's commands. Behave toward nature based on divine command is a clear case in Islam in which humans are asked to regard the environment. Hence human behavior toward the natural environment can be evaluated based on such commands. Table 2 shows two questions of environmental ethics and their responses from an Islamic view.

The Islamic worldview is characterized by a specific attribute of theocentricity in which God encompasses every thing. Explaining environmental ethics based on this concept can establish a more comprehensive ethical approach for human-nature interaction. Many verses in Qur'an confirm this reality. For example:

And whatever in the heavens and whatever is in the earth is Allah's and Allah encompasses all things (Qur'an, 4: 126).

Now surely they are in doubt as to the meeting of their Lord; now surely He encompasses all things (Qur'an, 41: 54).

To compare this view with other ones that are currently common to define relationships between God, humans and nature, it is useful to mention O'Riordan's idea as it is shown in Fig. 1. He suggested two major

Table 2: Two basic questions and responses of environmental ethics from the Islamic perspective

What possessed intrinsic value?	Theocentricity: All live and inanimate things (total cosmos) are God's creations and possess value. They deserve to be treated based on ethical considerations.
What are the criteria for evaluating a behavior as moral one?	Theological Deontology: Doing divine commands for behave toward the natural environment.

Source: [19]

Table 3: Comparing centers of value in relation to their utility in environmental conservation

Criteria				
Center of value	Unity between Humans and Nature	Responsibility toward nature	Conduct guarantee	Comprehensiveness
Anthropocentric	Humans and nature are two distinct entities	Comes from responsibility toward humans	In as much as human interests not to be endangered	Narrow to human
Biocentric	Human and alive species have something in common	Human is responsible only toward some alive beings	In as much as welfare of some alive species not to be endangered	Narrow to alive species
Ecocentric	Human is related to ecosystem	Human is only responsible toward ecosystem as a whole	In as much as ecosystem's stability not to be endangered	Narrow to ecosystem's components
Theocentric	Human is related to all God's creations	Human is responsible toward God and His creations	In as much as God's creations not to be endangered	Unlimited

Source: [19]

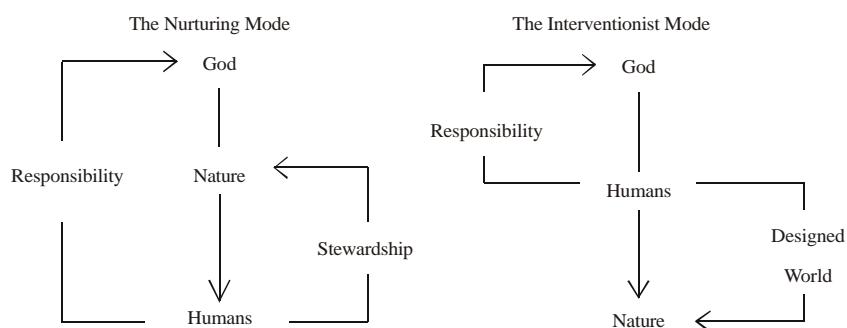


Fig. 1: Two views of relationships between humans and nature [42]

worldviews about environmentalism that include interventionist mode or techno-centrism in which human ingenuity and the spirit of competition dictate the terms of morality and nurturing mode or ecocentrism where nature provides a metaphor for morality (how to behave) and a guide to rules of conduct (why we must behave so) [42].

In interventionist and nurturing modes; God, humans and nature are seen as discrete entities with a hierarchy relationship. It can be said that these two views are objectionable. The interventionist mode is being criticized because it is anthropocentric. Although nurturing mode is trying to actuate humans to get moral principles from nature, it is strongly criticized by accepting the separation between worldly living and religion.

In Islam, God-humans-nature relationship is described more precisely by understanding that every thing is encompassed by God. It can also provide a different worldview for supporting a holistic approach in order to conserve the natural environment because it sees all things as an integrated body. The importance of Islamic worldview can easily be understood by knowing the need for a non-anthropocentric form of postmodernism; not by dissolving the dualistic barriers

that separates humanity from nature (as many environmentalisms would advocate) but by dissolving humanity and nature [43] in order to rediscover the unity of humanity and all creations.

The encompassment of all creations by God represents the unity of the universe and a special linkage that exists between humans and nature. This unity indicates that humans are included in the domain of God's monarchy as same as other things. It also reveals that all things are originated from one source. Thus human-nature relationship in an Islamic worldview should be considered with the reality that God not only has been creating all things but encompasses them. Under these circumstances, the spirit of the human-nature relations is described in a unique comprehensive framework.

It is useful to compare the Islamic theocentricity with other current centers of value in environmental ethics in order to understand its utility in environmental conservation (Table 3).

The importance of this comparison is then recognized when we refer to unanswered question on finding a way of an agreement on our behavior toward the earth. This agreement is necessary to admonish a being like human

being for preventing the natural environment from degradation. The Islam theocentricity can reinforce some important factors in environmental conservation. These are: the unity between humans and nature, human responsibility toward nature, guarantee to take right behavior and comprehensiveness.

It can be said that an Islamic-based environmental ethics encourages such behavior toward the environment in which following achievements are conceivable:

- C Rejecting any irresponsible domination over earth because human is both God's caliph on earth and responsible for safekeeping of creations. As Qur'an said:

Behold, thy Lord said to the angels: "I will create a vicegerent on earth". They said: "Wilt thou place therein one who will make mischief therein and shed blood? - whilst we do celebrate Thy praises and glorify Thy holy (name)?" He said: "I know what ye know not" (Qur'an, 2: 30).

Although human being has superiority over other creations, but this mastery should be accompanied with worship. In other words, a good human being is who follows God's commands and behave toward God's creations rightly.

- C Coexistence with the environment because human being see him/herself as same as another creations on the earth because they have originated from the same source as Qur'an said:

There is not an animal (that lives) on the earth, nor a being that flies on its wings, but (forms part of) communities like you. Nothing have We omitted from the Book and they (all) shall be gathered to their Lord in the end (Qur'an, 6: 38).

Thus, the way of humankind's life styles must be changed with respect to the natural universe disciplines. This reality recalls integrative essence of the Islamic worldview in which human is not only considered as integral part of nature but also puts humans in a complex network of animate and inanimate life.

- C Prevent humans from overexploiting natural resources because human is being asked to avoid from any damage to living organisms. As Qur'an said:

When he turns his back, His aim everywhere is to spread mischief through the earth and destroy crops and progeny. But Allah dose not love mischief-making (Qur'an, 2: 205).

- C Accepting responsibility toward nature because human being is not only God's superlative creation but also responsible for the most trustworthiness, namely freedom. The reality of human capability to conquer the universe reveals the human responsibility toward the natural environment.
- C Conserving and improving the environment because human being is not only responsible for conserving the God's creations among earth and all living things but also he/she is responsible for improving the natural environment conditions. It is the responsibility of human beings in general.

And to Samood (We sent) their brother Salih. He said: O my people! Serve Allah, you have no god other than He; He brought you into being from the earth and made you dwell in it, therefore ask forgiveness of Him, then turn to Him; surely my Lord is nigh, Answering (Qur'an, 11: 61).

- C Attaching sainthood to the natural environment because of the relationship that exists between the natural environment and God. This gives the environment some sanctity that puts humans to face with inner significant bridles for conserving the environment from any human-made damage.
- C Forgetting inner self causes environmental crises to emerge. It happens when human beings forget God and makes human being as a slave to satisfy mere animal desires.

And be not like those who forsook Allah, so He made them forsake their own souls: these it is that are the transgressors (Qur'an, 59: 19).

In brief, environmental degradation should be seen as a result of forgetting God. In these circumstances, human being can not understand its real position in the universe and it seems as if human being is free of ability to acknowledge cohesion and integrity of the universe.

CONCLUSION

Human-nature relation should be re-defined to establish a more well-intentioned and harmonious one. In this respect, ethics is fundamental to understand the

crises that afflict society today. For most of scientists and a large number of environmentalists, nature conservation is a major ethical issue and humankind's way of life need to be changed in order to conserve the natural environment. There is a need for a proper ethics to return back to the right human-nature relation.

There are some approaches to environmental ethics. On the one hand such approaches are existed that attach intrinsic value only to humans. They are considered as human-centered approaches in which nature is just for satisfying human needs. On the other hand, some approaches can be identified in which all creations along with non-human world possess intrinsic value and thus humans should hold them in reverence in spite of any utility that they might have for humankind. Nevertheless, there is still an urgent need for a comprehensive and holistic approach of environmental ethics which prepares possibility to make human being limit her/his unlimited material desires on a voluntary basis for a better living conditions.

Response to the two basic questions of environmental ethics from Islamic view is completely differed from other conventional environmental ethics approaches. This response is based on theocentricity and theological deontology respectively. Islam views the natural environment in a specific perspective in which God encompasses all things. Based on this view, belonging intrinsic value to God means the universe integration. This view helps to deliver a more comprehensive and holistic approach of environmental ethics in which any damage to the environment is just as damage to universe integrity and God's verses. The properties of this approach make it appropriate for the need of present-day humans to conserve the natural environment.

REFERENCES

1. Bourdeau, P., 2004. The man-nature relationship and environmental ethics. *Journal of Environmental Radioactivity*, 72: 9-15.
2. Abedi-Sarvestani, A. and M. Shahvali, 2008. Ecology and ethics: Some relationships for nature conservation. *Journal of Applied Sciences*, 8: 715-718.
3. Abaidoo, S., 1997. Human-Nature Interaction and the Modern Agricultural Regime: Agricultural Practices and Environmental Ethics. PhD Dissertation 1997, University of Saskatchewan, Canada.
4. Rshm, S.M.K., 2000. Care for Creation: Human Activity and the Environment. *Libreria Editrice Vaticana, Vatican City*, pp: 109.
5. Kortenkamp, K.V. and C.F. Moore, 2001. Ecocentrism and anthropocentrism: Moral reasoning about ecological commons dilemmas. *Journal of Environmental Psychology*, 21: 261-272.
6. Fricker, A., 2002. The ethics of enough. *Future*, 34: 427-433.
7. Benson, J., 2001. *Environmental Ethics: An Introduction with Readings*. Routledge, London, pp: 368.
8. De Pau La, G.O. and R.N. Cavalcant, 2000. Ethics: Essence for sustainability. *Journal of Cleaner Production*, 8: 109-117.
9. Ehrich, P.R., 2002. Human nature, nature conservation and environmental ethics. *BioScience*, 52: 31-43.
10. Sesin, V., 2003. Environmental ethics and human interests: problems of mutual relations. http://www.fondazionelanza.it/epa/abstract/sesin_full.pdf.
11. Hatcher, T., 2004. Environmental ethics as an alternative for evaluation theory in for-profit business contexts. *Evaluation and Programe Planning*, 27: 357-363.
12. Corral-Verdugo, V., R.B. Bechtel and B. Fraijo-Sing, 2003. Environmental beliefs and water conservation: An empirical study. *Journal of Environmental Psychology*, 23: 247-257.
13. Lund, V., 2006. Natural living: A precondition for animal welfare in organic farming. *Livestock Science*, 100: 71-83.
14. Oughton, D., 2003. Protection of the environment from ionizing radiation: Ethical issues. *Journal of Environmental Radioactivity*, 66: 3-18.
15. Fogg, M.J., 2000. The ethical dimensions of space settlement. *Space Policy*, 16: 205-211.
16. Brennan, A. and Yeuk-Sze Lo, 2002. Environmental Ethics. In: *The Stanford Encyclopedia of Philosophy*. Zalta E.N. (Ed.). <http://plato.stanford.edu/archives/sum2002/entries/ethics-environmental>.
17. Paterson, B., 2006. Ethics for wildlife conservation: Overcoming the human-nature dualism. *BioScience*, 56: 144-150.
18. Pentreath, R.J., 2004. Ethics, genetics and dynamics: An emerging systematic approach to radiation protection of the environment. *Journal of Environmental Radioactivity*, 74: 19-30.
19. Abedi-Sarvestani, A., M. Shahvali and S.M. Mohaghegh-Damad, 2007. Essence and outlooks of environmental ethics with emphasis on Islamic perspective. *Iranian Journal of Ethics in Science and Technology*, 2 (1,2): 59-72 (In Persian).

20. Pojman, L.P., 2001a. Does Nature Have Intrinsic Value? Biocentric and Ecocentric Ethics and Deep Ecology. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 75-76.
21. Schultz, P.W. and L. Zelezny, 1999. Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. *Journal of Environmental Psychology*, 19: 255-265.
22. Bjerke, T. and B.P. Kaltenborn, 1999. The relationship of ecocentric and anthropocentric motives to attitudes towards large carnivores. *Journal of Environmental Psychology*, 19: 415-421.
23. Kaltenborn, B.P. and T. Bjereke, 2002. Associations between environmental value orientations and landscape preference. *Landscape and Urban Planning*, 59: 1-11.
24. Hassany, H.R. and M. Alipoor, 2003. *Quandaries and Virtues*. Office of Education Publication, Tehran, pp: 460. (In Persian).
25. Newton, L.H., 2002. *Ethics and Sustainability: Sustainable Development and the Moral Life*. Prentice Hall, New Jersey, pp: 117.
26. Bookchin, M., 1995. What is Social Ecology? In: *Earth Ethics*. Sterba, J.P. (Ed.). Prentice Hall, London, pp: 245-259.
27. Gue, L., 2004. The case for ethical inquiry in science and technology policy. *EcoAction Journal*, 2: 53-69.
28. Leopold, A., 2001. Ecocentrism: The Land Ethic. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 119-126.
29. Naess, A., 2001. The Shallow and the Deep, Long-Range Ecological Movement. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 147-149.
30. Pojman, L.P., 2001b. Ecofeminism and Deep Ecology. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 189.
31. Warren, K.J., 2001. The Power and the Promise of Ecological Feminism. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 189-199.
32. Guertin, J.D., 1996. Feature section: Tunnelling and underground space for sustainable development. *Tunnelling and Underground Space Technology*, 11: 373-375.
33. Cairns, R.D., 2006. On accounting for sustainable development and accounting for the environment. *Resource Policy*, 3: 211-216.
34. Gollagher, M., 2006. The importance of traditional knowledge for sustainability: An analysis of Equitation. http://www.aaee.org.au/docs/2006%20conference/09_Gollagher.pdf
35. Tucker, M.E. and J. Grim, 2001. Series Foreword. In: *Indigenous Traditions and Ecology*. Grim, J.A. (Ed.). Harvard University Press, Massachusetts, pp: 15-32.
36. Dwivedi, O.P., 2001. Satyagraha for Conservation: Awakening the Spirit of Hinduism. In: *Environmental Ethics: Reading in Theory and Application*. Pojman, L. (Ed.). Thomson Learning, London, pp: 250-256.
37. Motavalli, J., 2002. Stewards of the earth. *The Environmental Magazine*, 13: 2-11.
38. Mohaghegh-Damad, S.M., 2000. A Discourse on Nature and Environment from an Islamic Perspective. Publication of Department of the Environment, Tehran, pp: 40.
39. Nasr, S.H., 2007. *Man and Nature: The Spiritual Crisis in Modern Man*. Kazi Publications, Chicago, pp: 151.
40. Aminzadeh, B., 2002. Religious worldview and environment: An introduction to the Islamic view to environment. *Mohitshenasy*, 28: 97-106. (In Persian).
41. Bryant, J., L.B. La Velle and J. Searle, 2005. *Introduction to Bioethics*. John Wiley and Sons Ltd., Chichester, pp: 240.
42. O'Riordan, T., 1989. The Challenge for Environmentalism. In: *New Models in Geography*. Peet, R. and N. Thrift (Eds.). Unwin Hyman, London: pp: 77-102.
43. Marshall, A., 1998. A postmodern natural history of the world: Eviscerating the GUTs form ecology and environmentalism. *Stud. Hist. Phil. Biol. Biomed. Sci.*, 29: 137-164.