ENVIRONMENTAL ETHICS IN THEORY AND PRACTICAL APPLICATION[1]

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Abstract

Environmental ethics is a critical study of the normative issues and principles relevant to the relationship between humans and the natural world. It covers various fields, ranging from the welfare of animals versus ecosystems to theories of the intrinsic value of nature. There are various approaches to environmental ethics. This paper examines some of the key positions presented by different environmental ethicists and their impacts on the natural environment. Some writers maintain that environmental ethics does not have a major contribution to make to the solution of environmental problems. However, this study and the contribution of many scholars show that environmental ethics has much to contribute to the solution of global environmental problems.

Various governments and policy makers can bring the insights of environmental ethics into various natural resource management settings. The ideas of environmental ethicists have had an impact on the natural environment. Among others, the "Precautionary principle" is an ethical principle that is increasingly being embodied in the legislation of various governments. If environmental ethics broadens its scope and addresses the injustice done to the majority of poor and powerless people and to nonhuman species, it will have a paramount role in creating awareness within countries and globally about the actions of transnational corporations, irresponsible capitalist countries and local industries which damage the environment.

Environmental ethicists may alert peasant farmers, pastoralists and other indigenous people to understand the long range effects of environmental degradation that are beyond the purview of local people and otherwise unavailable. Environmental ethicists with varied backgrounds can join peasant farmers and pastoralists who have multidimensional knowledge of the natural environment and help them develop further knowledge of it. The efforts of many people will one day bring change in favour of the majority of the people, nonhuman species, and the planet Earth. In fact, the paper stresses that environmental questions are not simply ethical. It suggests that the present power relations at the local and international levels should be changed in the direction of just and environmentally and socially sound development.

1. ENVIRONMENTAL ETHICS IN THEORY

The dominant Western worldview and social paradigm have maintained the isolation of humans from nature. They have had negative practical impact on the natural environment both in Europe and outside Europe. Conventional approaches to environmental issues have further exacerbated ecological problems. In spite of

[1] I would like to thank Professor Holmes Rolston III for his valuable comments on the first draft of this paper and for his extended interview he gave me in June 2003.

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this, not all Western traditions and thinkers have supported Western consumerism and the alienation of humans from natural environment. Some Western thinkers have opposed the dominant tradition and emphasised the relationship between humans and the natural environment.

Among others, Aldo Leopold proposed an extension of ethics to cover the living systems of the Earth in 1949. He recalled that, in the heroic age of Greece, slaves were considered as mere property and denied moral concern. He believes that the current status of land is comparable to the status of slaves, for "[l]and, like Odysseus' slave girls, is still property. The land-relation is still strictly economic entailing privileges but not obligations" (Leopold, 1966:218). Leopold states that the Land Ethic affirms the right of different species to continued existence in a natural state. Human beings should change their role as conquerors of the land community and respect their fellow members, and also have respect for the community as such by becoming plain members and citizens of it. His land ethic thus "simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively, the land" (1966:219).

Leopold (1949) extends moral concern to cover the natural environment and its nonhuman contents. His environmental ethic is holistic rather than individualistic. According to Leopold, the fundamental principle of the Land Ethic is this: "[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" (Leopold, 1966:240). What should be noted here is that as Vernon Pratt (with Jane Howarth and Emily Brady) (2000) has argued, persuasively in my view, Leopold and other environmentalists have taken from ecology scientific support for the view that human beings belong to communities that involve all the animals and plants, and the habitats of those animals and plants living in a specific environment.

Although Leopold has enlarged ethics to include the rivers and the soils, as well as the fauna and flora, his vision is local. His Land Ethic does not extend to global warming or to ozone holes. Leopold did not raise any question regarding population explosion, sustainable development and the relationship between the rich "developed" nations and the poor "developing" ones (Holmes Rolston, 1999b:131).

However, many philosophers have been influenced by Leopold and began the environmental debate in the 1960s. Subsequently, philosophers have tried to bring the natural environment within the purview of ethics. Consequently, environmental ethics appeared as a distinct branch of ethics in the 1970s. The journal *Environmental Ethics* appeared in 1979 in the USA. After the publications of various books on environmental ethics in the 1970s and 1980s, the International Society for Environmental Ethics (ISEE) was founded in 1989. In the 1990s the

following journals were founded: in the UK *Environmental Values* in 1992, *Worldviews: Environment, Culture, Religion* in 1997, and *Ethics, Place and Environment* in 1998; in the US *Ethics and the Environment* in 1996 and *Philosophy and Geography* in 1997 (Clare Palmer, 2003:16).

When environmental ethics emerged as a new sub-discipline of philosophy in the 1970s, it did so by posing a challenge to traditional anthropocentrism. It questioned the assumed moral superiority of human beings to members of other species on Earth. Accordingly, environmental ethics is a critical study of the normative issues and principles relevant to the relationship between human beings and the natural world. It is primarily concerned with how human beings can live responsibly with the natural environment. As J Baird Callicott observes, "*an environmental ethic would impose limitations on human freedom of action in relationship to non-human natural entities and to nature as a whole*" (emphasis in original, 1994:1). In fact, environmental ethics extends the scope of moral thought beyond one's community and nation to include all people everywhere, animals and the natural environment (Louis P Pojman, 2000:vi). As such, it deals with pollution, population control, resource use, food production and distribution, energy production and consumption, the preservation of the wilderness and of species diversity.

There are two main approaches in modern environmental ethics: human-based (anthropocentric) and non-anthropocentric. There are different strands of thought within the two approaches. A detailed study of these strands is beyond the scope of the present study.

The adherents of these approaches disagree on the question as to whether there is value beyond human well-being and interests. In this regard, environmental theorists have made a distinction between intrinsic (non-instrumental, non-derivative) and instrumental value. A thing is of intrinsic value if it has value in its own right, or for its own sake. Intrinsic value depends on the nature of its bearer.

Although Baird J Callicott (1980) is not in agreement with anthropocentrists, he challenges objectivist notions of intrinsic value. He believes that though nature has a place in human values, there can be no value apart from an evaluator, that all value is as it were in the eye of the beholder. According to Callicott, only human beings are able to give values to the ecosystem (1980:325). For Callicott intrinsic value is generated with the appearance of the subject-generator. All intrinsic value is grounded in human feelings but is "projected" onto the natural object that "excites" the value. "Intrinsic value ultimately depends upon human valuers." Furthermore, "[v]alue depends upon human sentiments" (Callicott, quoted in Rolston, 1988:113). This is an anthropogenic intrinsic value, which is distinct from the theory of autonomous intrinsic value. "The anthropogenic theory of intrinsic

value strains to insist on the subjectivity of value conferral while straining to preserve the object with all its properties" (Rolston, 1988:116).

Rolston further argues that natural values exist before humans arrive (1994:196) and that "[w]hen humans come, they find Earth often *valuable*, able to produce *valued experiences*" (emphasis in original, Rolston 1994:196-197). He believes that nature itself is a value generator, that it began generating intrinsic value independently of humans long before they evolved, and that it continues to do so. Such value discovered by humans is already existent in nature.

Besides intrinsic and instrumental value, Rolston (1988, 1994) recognises the existence of systemic value, a creative potential that steadily becomes actual. The system has fecundity, creativity and is self-organising although it has no self. Natural history is spontaneously organised by the system which in turn fills that natural history with organismic selves, each also self-organizing (Rolston, 1994:71 and 181).

As Bryan G Norton (1996) has rightly pointed out, however, Rolston's theory of intrinsic value seems inconsistent. On the one hand, he maintains that natural value is "emergent," and that all perception and valuation is relational, that "this marriage of a subject to its object gives birth to value. It enters and exits with awareness" (quoted in Norton, 1996:213). On the other hand, he states that objective natural values are present outside the self and outside culture (Rolston, 1993:412). Rolston thus believes that "intrinsic natural value recognizes value inherent in some natural occasions, without contributory human reference" (quoted in Norton, 1996:212). Rolston, (2003), however, states that this is not his final conclusion, but only of one level of value.

A thing is of instrumental value according to writers such as Andrew Brennan (1992) and Rolston (1988), if it serves as a means to some other ends. It contributes to further interest satisfactions.

However, Christine M Korsgaard (1983) argues that the theory that opposes intrinsic to instrumental value and equates intrinsic value with value of ends restricts the possibilities open to us in serious ways. She further argues:

> [i]f all extrinsic value is instrumental value, then the only option is that the activity is a *means* to pleasure. Now if the two distinctions are not equated, there is room for some other sorts of accounts of extrinsic value, and one may not be forced to this conclusion (emphasis in original, Korsgaard, 1983:172).

According to Korsgaard, the value a thing has in itself is intrinsic goodness whereas the value a thing gets from some other source is extrinsic goodness. Accordingly, based on the Kantian theory of goodness, Korsgaard states that there

are two distinctions in goodness that are quite separate, namely the distinction between things valued for their own sake and things valued for the sake of something else–between ends and means, or final and instrumental goods, and the distinction between things which have their value in themselves and things which derive their value from some other source: intrinsically good things versus extrinsically good things. The distinction between intrinsic and extrinsic goodness refers to the value of a thing either because of its nature or because of something else. "To say that something is intrinsically good", Korsgaard says, "is to say that it has goodness in itself" but it does not mean that it is valued for its own sake. On the other hand, a thing that is extrinsically good can be valuable as an end. That means a thing can be valued as an end although it is not valuable intrinsically.

Extrinsic value is not found in the object itself and it doesn't have instrumental value either. Consider the following example: Ms. Y's father inherited a broken crystal snowflake that was given to his mother as a wedding present. He kept this snowflake all his life. When he died Ms. Y got the snowflake. How is this snowflake valuable? The crystal snowflake is not valuable because it is useful for Ms. Y. It does not have instrumental and intrinsic value. It is not a very fine artistic crystal. The crystal snowflake is valuable to Ms. Y, because it is a souvenir. It gives her memories of her grandmother and father. Thus, Ms. Y assigned value to the crystal snowflake that is not found in the crystal snowflake. This value comes from outside. Philosophers consider such thing as an extrinsic value.

John O'Neill (1992) for his part noted that some writers commit the fallacy of equivocation by interchangeably using the concept "intrinsic value" in different senses sometimes as a synonym for non-instrumental value, and at other times in G E Moore's (cited in O'Neill, 1992) sense–as something that refers to the value an object has solely in virtue of its "intrinsic properties" and still at other times as a synonym for "objective value", i.e., value that an object possesses independently of the valuations of valuers.

Keekok Lee (1993) tried to reconcile conflicting positions on the nature of intrinsic value. According to Lee, there are different varieties of intrinsic value: "articulated" intrinsic value, which is created and possessed by humans alone; and "mutely enacted" intrinsic value, which appears in the natural world. She regards the former kind of intrinsic value subjective and anthropocentric and the latter as objective that is located in all living things.

A thing that serves as a means to some other value may also be of value in its own right. In other words, the same thing can have both intrinsic and instrumental value. Thus, as Brennan noted, the categories of instrumental and intrinsic value are not exclusive (1992). The distinction between intrinsic and instrumental value cannot be removed owing to the possibility that both can be present together (Attfield, 1995:30).

According to the human-based ethics, all, and only, humans count or are valuable in themselves. Human beings are both the actors and the proper subjects of morality. In this case, then, the natural environment has instrumental value only.

In contrast to human-based ethics, non-anthropocentric ethics stresses that things apart from human beings should be the proper subjects of moral concern as well as human welfare. It challenges the existing value categories and moral analysis. There is a wide range of possible nonanthropocentric theories ranging from the welfare of animals versus ecosystems to theories of the intrinsic value of nature. Ecocentrists extend value to entire ecosystems. Rolston (1988) argues that individual animals, species, and ecosystems all have their own kind of intrinsic value and merit appropriate respect. In Rolston's view, the aim of environmental ethics should be the investigation of both wild nature and culture-bound nature. For Rolston, until one has a concept of nature, no education is complete. In the same way, until one has an appropriate respect for fauna, flora, landscapes, and ecosystems, no ethics is complete (1988:192).

He thus suggests that humans are required to recognise the value of nonhumans outside themselves. "Nevertheless, humans are of the utmost value in the sense that they are the ecosystem's most sophisticated product" (Rolston, 1988:73). He persuasively argues that besides self-actualisation and their central nervous systems, humans are superior in loving the other, perhaps even as themselves. "The animal takes a gastrocentric view (centering on food), a self-centered view (protecting its own life), a species-centered view (propagating its kind), but humans can take something more than an anthropocentric view" (1988:72). Rolston further suggests that humans ought to follow nature because they are the only creatures that have the appreciative respect for the system and for others in the system beyond themselves. They are privileged resource users and respondents to the natural world (1988:78). Rolston thus advises people to think of nature as a community first, a commodity second (1988:310).

In the same way, radical ecologists, such as deep ecologists, contend that all beings, processes and systems possess value independent of human beings. They argue that nature is a living web that has its own purpose and meaning. They intend to foster a new ecological consciousness and sensibility that recognises humanity as one part of the ecosystem in metaphysical, moral and social terms without overlooking the irreducible individuality of human beings (P Marshall, 1995). There are different trends and proposals in radical ecological theories (for enlightening discussions of the basic principles of these theories see Murray Bookchin, 1982; Arne Naess, 1973; J Clark, 1990; Carolyn Merchant, 1992; Marshall, 1995; George Sessions, 1995).

The foregoing discussion has revealed that there are various lines of thought regarding the nature and role of environmental ethics, and it is sometimes difficult to label various environmental ethicists as purely anthropocentrists and non-anthropocentrists. As Rolston states, "variously constructed kinds of environmental ethics need to join as all humans themselves as Earthlings, with their home planet as a responsibility" (1999a:433). The dialogue among environmental ethicists and other theorists can influence human beings to reconsider their relationship with the natural environment. Environmental ethicists might encourage people to try to combat the influence of powerful countries and corporations.

2. ENVIRONMENTAL ETHICS IN PRACTICAL APPLICATION

2.1. Value in Environmental Ethics and its Relevance to Policy

There has been a debate among philosophers whether environmental ethics has had much impact in solving environmental problems. For instance, Callicott contends that environmental philosophy can contribute to the solution of environmental problems by deconstructing the dualistic-mechanistic worldview that is at the root of our present problems and by promoting a new ecological-organic world view (1995:30). Among others, he mentioned the death sentence passed on Socrates as evidence of the threat that philosophy can pose to established beliefs and practices. He thinks that environmental philosophers have articulated the importance of the new worldview. He further argues that "[w]e speculative environmental philosophers are inescapably environmental activists...in thinking, talking and writing about environmental ethics, environmental philosophers already have their shoulders to the wheel, helping to reconfigure the prevailing cultural worldview and thus helping to push general practice in the direction of environmental responsibility" (1995:33-34).

On the other hand, Alastair Gunn argues that, as currently practised, environmental ethics is too obscure, and cannot save the world. It is not accessible to environmental professionals. He suggests that an appropriately reconfigured environmental philosophy can contribute to environmental concerns by challenging the assumptions of those who profess to think that there is no environmental problem; by undermining bad arguments against environmentally sound action; and clarifying and arguing for concepts and values that are central to an environmentally sustainable culture (1994:211-213). Gunn stresses that environmental philosophy can persuade people to change their attitudes and thereby adopt environmental values. Ethical education, he says, can change the attitudes of environmental professionals such as engineers, planners, and architects (1994:214).

Eugene Hargrove (1993) for his part says that he is surprised that after several years of the journal *Environmental Ethics* the discipline has not made much impact on environmental affairs. He laments that environmental ethics has been ineradicably theoretical. In another article, Hargrove states that at present, environmental professionals have "an abysmal knowledge of philosophy" (1994:248) and they are required to know enough about rights theory and value theory in order to communicate with professionals who deal with such issues (1994:249).

Barnabas Dickson (2000), however, has criticised Hargrove and others for expecting ideas to have any influence. He says that although society can have many individuals who have been students of environmental ethics courses and who have the best possible ideas, when they work for a company, the structures will prevent them making any difference at all. He stresses that both the highly mediated nature of the relationship between individuals and the natural environment and the pervasive pressure on firms in market economies to reduce their costs provide reasons to question the assumptions of people like Gunn and Hargrove. People, he says, satisfy their needs and desires via complex socio-economic systems, spread over vast geographical areas and involving many different agents. Because of this mediation people do not seem to consider themselves as responsible for the environmental harm that occurs in the course of satisfying their desires and needs. Although there are cases where a key environmental agent is persuaded to adopt environmental values, the systematic and powerful nature of this pressure in modern societies makes this unlikely except in a small number of cases. Wrong attitudes may not be the reason for environmental damage. Dickson concludes that "environmental ethics does not have a major contribution to make to the solution of environmental problems" (2000:149). because ethical change may not be the basis of the solution of environmental problems.

In contrast to Dickson I would argue that philosophical ideas could make a difference. Philosophical ideas can help us to understand the cultural underpinnings of various societies. They give meaning and significance to life. They can influence real life problems in several ways whether we are aware of them or not. Among others, the influence of ancient Greek philosophers, of René Descartes, Hegel, Karl Marx and of John Stuart Mill is worth mentioning. The aim of philosophy is to shape not only one's way of thinking but also one's way of life. Socrates said that the unexamined life is not worth living. He used to conduct conversations about illusion and reality, about what has value and what does not, about knowledge and ignorance in the marketplace. He influenced various individuals in ancient Greece. Also, in the West Darwinian science and philosophical reflection on it has changed people's understanding of their place in

the world very dramatically. The Darwinian conception of a common evolutionary origin and ecological connectedness has promoted a respect for all forms of life. However, there are times and places in philosophy where what you think does not have immediate relevance.

As has been stated earlier on, Gunn (1994) suggests that it is the way in which environmental ethics is presented that needs to be changed in order to contribute to the solution of environmental problems. Dickson (2000), however, thinks that the failure of environmental ethics to contribute to the solution of environmental problems is not caused by the difficulties of communication between academic philosophers and others.

However, in practice, peasant farmers and other indigenous people in developing countries do not have access to modern environmental theories. It seems that modern environmental ethicists in the West have produced their works for the consumption of philosophers and other privileged groups in industrialised countries. According to Norton, "[t]he burgeoning literature of environmental ethics is read mainly by other philosophers, and occasionally by environmental policy analysts, but seldom by environmental activists and managers" (1986:202).

Similarly, Andrew Light states that the current focus in environmental philosophy on describing the non-anthropocentric value of nature does not unite environmental philosophy and other forms of environmental inquiry (2003:399). Clare Palmer (2003) also points out that the major focus of environmental ethics over the past three decades was on how humans should think about wild environments, and what values they might carry. Most environmental ethicists are not actually making remarks about how land should be managed in different parts of the world. They are primarily concerned with the question of intrinsic value. Palmer, however, says that environmental ethicists have begun to think about urban and agricultural areas. Thus in the future, environmental ethics is expected to consider ever wider kinds of environments and the ethical issues which these environments raise (Palmer, 2003:34).

Norton (1986) argued that the influence of environmental ethicists on the actual environmental decision-making is insignificant, because they use the traditional vocabularies of professional philosophers which may not be understood by Western environmental practitioners, let alone by African peasant farmers and pastoralists. The modern environmental ethicist does not talk to the common people. He or she talks to other environmental ethicists. In fact, most environmental ethicists have limited opportunities, because they work in universities, and the people they can talk to are students. So long as environmental ethics is retained at this level, modern environmental ethics has nothing to offer to peasant farmers and pastoralists. In this regard Light reminds environmental ethicists that "[i]f we talk only to each other about value theory, we have failed as

environmental professionals" (2003:399). As Callicott (1996) has noted, isolated individual action alone cannot effectively redress environmental insults. What is required is collective social change. "Thus, the best way to put environmental ethics into practice is to work to instill environmental values in society as the foundation for coercive environmental policies, regulations, and laws" (Callicott, 1996).

Likewise, Light (2003) suggests, in order to contribute to the resolution of environmental problems, environmental philosophers should influence policy makers to formulate better policies and make the case to the public at large to support these policies for ethical reasons. He further stresses that environmental philosophers need to help to articulate the normative foundations for environmental policies in ways that are translatable to the public in order to make constructive contributions to ecological restoration and to environmental issues in general (Light, 2003:399-400).

According to Light, environmental pragmatism enables us to recognise that a responsible and complete environmental philosophy includes a public component with a clear policy emphasis. Environmental pragmatism identifies both the existence of nonanthropocentric conceptions of value of nature and the development of human-centered notions of the value of nature (Light, 2003:407-408). It favours the restoration of nature that is believed to be instrumental in the formation of a positive community with nature. Light thus opens up issues about human/nature relationships, suggesting that restoration can be viewed as an attempt to heal relationships between humans and nature, even freeing nature from constraints (such as pollution) that had prevented it from pursuing its autonomy. Engaging in restoration projects may also help humans to understand the natural world better and thus to be more willing to defend it against future harms. According to Light and his followers, environmental pragmatism is concerned to develop strategies by which environmental ethics can contribute to the resolution of practical environmental problems.

It is also worth noting that some environmental ethicists acting as concerned citizens have already influenced the environmental policies of their governments. They have contributed to various debates on values in nature, humane treatment of animals, the conservation of endangered species, biodiversity conservation, the meaning of sustainable development, what counts as development, and justice. They have been interacting with economists, lawyers, biologists, policy makers, people working with NGOs and environmental movements in order to address global environmental problems. For instance, although Rolston is not a principal figure in the formation of environmental law in the USA, he has contributed to environmental thinking. He has served on the Board of Governors of the Society

for Conservation Biology. He was named by the U.S. Congress, Office of Technology Assessment to an Advisory Board for a study of biodiversity and legislation. He serves on an Environmental Protection Agency Commission on Protecting the Full values of Ecosystems.

He has served as a consultant with over two dozen conservation and policy groups, including the U.S. Congress and a presidential Commission. He has been a consultant with the US Forest Service on many occasions. He has taught environmental ethics at seminars for Yellowstone National Park, and served as a keynote speaker at their science conference. He has published articles on endangered species and bioscience. He has published in *American Forests* and the *Environmental Professional.* He served as a member of the Working Group on Ethics of the World Conservation Union (IUCN). Rolston (2003) stated that at present the USA has about 650 wilderness areas. When environmentalists began to worry about these things the USA did not have a single designated wilderness area, although there were previously a few so-called "primitive areas" unofficially set aside.

Although Rolston acknowledged that the government of the USA is not always environment friendly, it passed the Endangered Species Act, various Clean Water Acts, Clean Air Acts, and several other acts out of environmental concerns. Rolston has further stressed that environmental ethics has contributed to these concerns. Environmental concerns have made a difference to what has been going on in politics and business in the USA. Businessmen are required to respect environmental laws (Rolston, 2003).

Rolston also said that he taught students for about 34 years. Hundreds of those students are in positions where they are decision makers on environmental policy (Rolston, 2003). Rolston noted that many U.S. Senators and Congressmen consider the environmentalist lobby groups collectively to be the strongest of the lobby groups, and there is always an ethical component of their concern.

Etienne Vermeersch, (1994) for his part argues that humans alone are not responsible for the destruction of nature. Grasshoppers too have negative impact on the areas they settle on. What makes humans different from other creatures is that they have power: a capacity for interfering and also for destroying on a planetary scale. They can also anticipate the negative consequences of their actions. Vermeersch thus suggests that environmental philosophers should clarify this power of foresight. It is equally important to relinquish the view that scientific, technological, capitalist complex [STC] will solve the problems automatically. Vermeersch maintains that environmental philosophy as the anthropology and philosophy of the future has a lot to contribute to the solution of environmental problems. He states that "when this philosophy, this critical thinking fails, when

our acting keeps running out of control, there will probably be no more future to philosophize on, no future at all" (Vermeersch, 1994:284).

On the other hand, the adherents of development see radical ecologists as antagonistic to development and "Third World" countries. Particularly, deep ecology is considered as a new variant of Western domination and "neo-colonialism" which favours spectacular animals over people. For instance, concerning deep ecology's invocation of Eastern spiritual traditions as forerunners of deep ecology Ramachandra Guha writes "[t]his coupling (ancient) Eastern and (modern) ecological wisdom seemingly helps consolidate the claim that deep ecology is a philosophy of universal significance" (1989:74). Guha argues that deep ecology's conclusion that "intervention in nature should be guided primarily by the need to preserve biotic integrity rather than by the needs of humans" is not acceptable. The setting aside of wilderness areas in countries like India favours the rich at the expense of the poor. Guha underscores that deep ecology's exclusive focus on wilderness is positively harmful when applied to the "Third World", for the protection of wilderness can result in the physical displacement of existing villages and their inhabitants. Therefore, the social consequences of an exclusive focus on wilderness might be different for different countries (Guha 1989).

David M. Johns (1990), on the other hand, argues that Guha is partly wrong in claiming that deep ecology equates environmental protection with wilderness, because deep ecology recognises the place of humans in nature.

Naess (1995a) also claims that deep ecology is not a threat to the poverty stricken people of the "Third World". He underlines that there is no deep ecologist who suggests that "Third World People" should stop using any trees or stop any new human settlement in any wilderness whatsoever.

Even though wilderness is not the single goal of deep ecologists, the conclusion is hard to avoid that deep ecologists have paid much more attention to wilderness than to human communities. The segregation of the local population from the land without solving their problems is to be deprecated. Deep ecologists do not question the political basis of industrialised societies. Deep ecologists have not clearly shown how developing countries could alleviate poverty and prevent further environmental degradation. In many developing countries the problem is not lack of environmental consciousness. The point is that the people cannot protect the environment at the expense of their survival. They have no choice other than to continue to use the already degraded environment. I believe that without paying attention to the needs of the present generation, we cannot consider the needs of future generations, for future generations are unthinkable without the survival of the present generation.

But what is surprising is that some environmental groups and theorists in the West want peasant farmers and pastoralists to suffer more and more in order to save various species. They could not see the simple, practical common sense of improving the circumstances of human populations in technological ways in order to save endangered species. It would be unethical to tell peasant farmers not to destroy the environment, when they are starving, without providing an alternative means of survival.

Accordingly, one may argue that environmental ethics, as conceived in the "developed" world, is not relevant to peasant farmers and pastaoralists in "developing" countries, because they don't face the ethical problems discussed in more affluent nations, where people and governments have more choices. Although there are exceptions, most environmental ethicists who grew up in the cities are not fully aware of indigenous knowledge, and nor are they aware of such issues as what is required in hunting, forest management, biodiversity conservation and other activities. Their theory is based on incorrect assumptions. So some hypothesise about agriculture, forest management, biodiversity conservation and hunting without having the basics about them. They are not fully aware of the enormous contribution of women to agriculture and biodiversity conservation, and the cultural constructions of gender and gender activities in society. In fact, some environmental ethicists who grew up in towns can study the environmental ethic of indigenous people via the media of written works on this subject, and by visiting indigenous people in rural areas.

Moreover, as Sheelagh O'Reilly (2001) has noted, some Western environmental ethicists do not deal with issues important to many environmentalists in the "developing" world. O'Reilly further states that "radical" environmental ethics has not addressed issues important to the practice of environmental management in the "Third" World (and many areas of the "First" World e.g. Wales) (2001:34).

Does it mean that the theories of environmental ethicists are not useful for the people of developing countries? As I have argued elsewhere (Workineh 1997, 2001, and 2002), peasant farmers and pastoralists in developing countries can make use of the knowledge of environmental ethicists. Environmental theorists may alert peasant farmers and pastoralists to understand the long-range effects of environmental degradation that are beyond the purview of local people and otherwise unavailable. There are communities that have been removed from their land for a long period of time with terrible environmental results. They have not been able to manage their lands in the traditional ways. Many of the endangered species that environmental movements in the West are concerned about depend in one way or another on landscapes that were created by peasant farmers, pastoralists and other indigenous people. Environmental ethics and science can demonstrate in books and journals to the public that the loss of land rights and the loss of access to

natural resources cause more problems. Modern environmental knowledge about global warming, global climate, and ozone layer depletion will provide peasant farmers and pastoralists an opportunity to look at their own local concerns and issues within the context of a greater global perspective.

But do peasant farmers and pastoralists have access to modern environmental ethics or environmental science particularly in developing countries? As has been stated earlier on, they don't have access to environmental theories because of the stated reasons. Although there is no philosophical quick fix for environmental problems, either through ethical individualism, or through the ecological holism of modern environmental ethicists, in theory one would hope that environmental ethics should spread as wide as possible. It will be very useful for peasant farmers and pastoralists, if the information could be disseminated in some way. But it is very difficult to tell how this could be achieved.

Environmental ethicists in Africa and in other parts of the world should try to achieve this goal by enabling peasant farmers, pastoralists and other indigenous people in the world to get the message of their works. They need to remind African peasant farmers and pastoralists that if native animals and plants vanish from the African landscape, life in the future will be miserable because Africa would lose a great deal of the richness of biodiversity. There is an enormous biodiveristy that is now in jeopardy and may be lost in the future. Thus, first of all, it would be useful to create awareness of what peasant farmers and pastoralists already know because they know the general biology of their surrounding. They need to be informed of the fact that their environmental knowledge has a tremendous value for the natural environment so that they should maintain it even under harsh conditions. They should be reminded that if they improve their knowledge, it would even be better. But one has to know how to communicate with them at the grass roots level. One has to respect their culture and views because culture and biodiversity are inextricably linked together. Environmental ethicists and theorists should have to learn to talk the language of the peasant farmers and pastoralists. Environmental theory has to be presented in a language that is easily digested by peasant farmers and indigenous people. Environmental ethicists need to promote ethical debate in a language that peasant farmers and pastoralists can understand.

There is one concrete example in which peasant farmers expressed their interest to benefit from modern knowledge. John Medcalf is a priest in South and Central America. He reported that, in Peru, a young boy came to his office and borrowed a book entitled *A History of Peru* written in Spanish. After reading the first book, the boy expressed interest to read more books. This led to the establishment of rural libraries in Peru in which the local people read books on health and first aid, history, children's histories, legislation, poetry, legends and folktales, religion, and

on cooperatives and current affairs (Medcalf, 2000:10). It should be stressed that peasant farmers and pastoralists do not read complicated matters. But they do read relevant books written in the language they understand.

This does not mean that environmental ethicists should come down to the level of peasant farmers and stop producing other works, which have global dimensions. Environmental ethicists can contribute much to the protection of the environment if they relate abstract understanding to practical problems in society. Peasant farmers and pastoralists should also be encouraged to improve their knowledge, their language and learning skill so as to benefit from modern theories and technologies. It has been shown that in the past peasant farmers and pastoralists have benefited from modern technology and inventions, such as films, video and communication technologies. Some peasant farmers have already started to use the Internet with the help of Non-Governmental Organisations, for instance in Kenya (Ken Opala, 2003). In fact, the Internet is based on a language that many peasant farmers hardly understand. Secondly, most peasant farmers in developing countries do not have access to telephone service. But in societies that are in a better position, peasant farmers can benefit from the works of environmental theorists. Dorism Schoenhoff (1993) even suggests that farmers, traditional healers and local environmentalists must participate in the design of computer systems so that the systems will promote acceptable and enduring development within the indigenous communities. Accordingly, environmental ethicists should be willing to talk to peasant farmers, pastoralists and non-philosophers.

Environmental theorists with varied backgrounds can join peasant farmers and pastoralists who have multidimensional knowledge of the natural environment and help them develop further knowledge of it. Peasant farmers can benefit from scientific selection of plants. Although they have their own strategy, a scientific approach can help them to speed it up. Research oriented institutions may encourage peasant farmers and pastoralists to carry out their own research.

The dichotomy between indigenous and modern environmental knowledge is not natural. The dichotomy between the two is an artificial construct and cannot be defended. My argument might appear to some to embody a contradiction in my overall argument, and to be inconsistent. This is not the case. I do not endorse the view that there is an unbridgeable gap between indigenous and modern knowledge, or that they are independent entities although I acknowledge that they represent different levels of the same knowledge. Although there is a distinction to make between indigenous and modern knowledge, there is no dichotomy because they are continuous. There is a common framework for all knowledge. Thus, science is not only a Western tradition. If one claims that scientific knowledge is one's own monopoly, one can be judged to be arrogant.

Here, I am not suggesting that all people who know different things are doing science. Peasant farmers and pastoralists employ different methods such as progressive adaptive learning, curiosity, hypotheses, observation, and empirical testing, which are germane to conventional, positivist, empirically based scientific approaches for solving environmental problems. What is interesting is: "[m]any activities undertaken by rural people and scientists are similar: they distinguish, name and classify entities in their environments: they observe, compare and analyse; they experiment; they attempt to predict" (R Chambers, 1983:93).

Thus, traditional ecological knowledge and scientific knowledge have many things in common. "Both are attempts to make sense of the world, to render it comprehensible to the human mind. Both are based on observations and on generalisations derived from those observations" (Fikret Berkes *et al*, 1995:282), although it should not be denied that modern science relies on specialised full-time observation, controlled experiments, captive animal studies, and technological devices such as radio collars or electronic monitoring and others (Richard Nelson, 1993:209). Unlike modern science, indigenous knowledge is not intended to discover universal laws. Instead, it focuses on the web of relationships between humans, animals, plants, natural forces, spirits, and landforms in a particular locality (Marie Battiste and James (Sa'ke'j) Youngblood Henderson, 2000:44). In fact, this view does not rule out the fact that peasant farmers also perform various things by habit, which are not necessarily based on scientifically tested hypotheses. In any case, as Ashis Nandy (1987) persuasively argues, today the choice is no longer between traditionalism and modernity in their pure forms but an enlightened middle way between the two.

I would thus argue that modern knowledge is an extension of indigenous knowledge. But both indigenous and modern knowledge have roles in different contexts. The combination of indigenous and modern knowledge helps us to develop a new knowledge base that is more effective than either of them.

Moreover, as I have argued elsewhere (Workineh, forthcoming), peasant farmers, pastoralists and other indigenous people have their own environmental ethic relevant to their situation. They critically and rationally evaluate the commonly accepted opinions and practices of their people and thereby develop their own independent views about society and the natural environment. Their view of the value of the natural environment is based on reasoned thought. Modern environmental ethicists can benefit from the environmental knowledge of peasant farmers and pastoralists. Different groups of people have different traditions which are compatible with the theories of various environmental ethicists. Therefore, modern environmental ethicists and scientists should make in-depth consultation

and ongoing dialogue with local communities and professionals. This can promote reciprocal information flow in a wide variety of fields.

It might be objected that in the practical sense this does not seem to work because of various factors. On the one hand, modern environmental ethicists do not bother about peasant farmers and other indigenous people in the world. They are interested in knowledge and theoretical debate rather than in practical problems at the grass roots level. There is no practical interlinkage between modern environmental ethicists and peasant farmers and pastoralists.

Another consideration, which can be presented against my view is that it would be impossible to get the people in developing and developed countries to change their behaviour and beliefs on the global scale when there are pressures advertising all the propaganda for more consumption and material goods. It would be extremely difficult to overcome all these pressures.

Although there is some truth to the objections outlined above, this is not fatal to my overall argument in this paper. What has happened so far is destructive to the environment, and human beings too. Many beautiful environmental conventions have not enabled us to control environmental degradation.

It is also certainly true that there has been little interest in the long-standing strategies, ethical relationships, biophysical relationships and all sorts of practical daily engagements of the local people with the natural environment. Nonetheless, it is beyond doubt that the ecological principles and practices of peasant farmers and pastoralists have promoted the sustainability of species, ecosystems and biodiversity. I also think that there is an enormous coincidence between the environmental ethics of peasant farmers and pastoralists and the emerging sophisticated ethics being articulated by modern environmental philosophers.

It is time to reflect on what has been done and what is coming in the future. It is high time to translate laws and promises into practice. That is the only option. We cannot continue in the old way and ignore indigenous knowledge as such. Modern scientists particularly in medicine and agricultural science are coming back to indigenous knowledge to enrich their studies. For instance, scientists use the *neem* tree as insecticide in India. Some scientists have developed conservation strategies on the basis of indigenous environmental science (Melaku Worede and Hailu Mekbib, 1993; Melaku Worede et al., 2000). Increasingly there are some smart corporations that understand that resource security relies on environmental sustainability, social sustainability and the wise use of resources. They try to develop a sustainable strategy that depends on good relationships with local communities and local economies in order to have long term resource security. On the other hand, quite often interested companies use indigenous knowledge to exploit people. They use it as a code for exploitation.

2.2. Power and Environmental Concerns

In this section I will briefly discuss how power relations have hindered the practical application of environmental ethics. But an extended discussion of this problem is beyond the scope of this paper. I had already dealt with the relationship between power, knowledge and ethics elsewhere, and I have to set aside these topics (apart from raising some aspects of them) (see Workineh, forthcoming). While "power" refers to the capacity to control both human and natural resources "authority" suggests the right to exercise this function in a given society.

The preceding discussion indicates that both developed and developing countries can benefit from environmental ethics. However, there has been a gap between what ought to be and what is done. Despite the good principles formulated by ethicists and countries during international conferences on various subjects, the world is not yet on a path toward just and environmentally sound development. Transnational corporations and various countries have continued to promote their interests at the expense of the natural environment and poor countries.

International organisations including the United Nations and the people have not yet forced transnational corporations and capitalism to be environmentally friendly, and respect international treaties. Powerful industrialised countries can ignore regional and global environmental treaties. Signatory states can violate a treaty and continue to destroy the environment (see E U Weizsacker, 1994:165). Although economic policy instruments may be used to compel these states to take environmental action, other countries and environmentalists have no real power to force them to abide by the law. Moreover, some countries, through the pursuit of their own selfish interests, refuse to cooperate with other states. For instance, during the Rio Conference on Environment and Development in 1992, the treaty on biodiversity was opposed by the United States of America, which favours market-based solutions (see J Homberg *et al*, 1993). Furthermore, the US President George W Bush is opposed to the 1997 Kyoto Protocol agreement that calls for developed nations to cut emissions of greenhouse gases to 5% below their 1990 levels by 2012 (see Environmental News Service, 2001). He is afraid that the treaty would put US manufacturers at a disadvantage and hinder efforts to boost domestic energy supplies. Thus, international agreements do not get to the heart of the problem despite being indispensable. As long as powerful countries can reject these agreements, the danger of environmental degradation persists. Currently, there is no way to implement international treaties against the interests of global powers. Therefore, the fact on the ground is that power seizes knowledge for its own ends and marginalises ethics. If one has power, one can appropriate all knowledge.

Power can be used to secure knowledge and determine what a society believes to be correct knowledge.

Likewise, knowledge is power. Knowledge of nature gives power over nature. If one has knowledge one has power and can use this knowledge to fulfil his or her desires. One of the major problems in the contemporary world is the commercialisation and privatisation of knowledge. Large corporations control a lot of knowledge. For instance, development in genetics gives corporations power over ordinary people and the governments of many countries. The wealth of these corporations is greater than the entire wealth of certain "developing" countries.

But power cannot set and form knowledge forever. It does not define knowledge absolutely. It may do so temporarily and provisionally. Knowledge has a way of reasserting itself. For instance, in the past people used to believe that kings and queens had divine rights. This belief was kept in place by power. Nevertheless, that belief failed and many people do not believe in it any longer. So, power and knowledge are closely related and power can produce knowledge, and knowledge can also produce power.

I do acknowledge that capitalism alone is not responsible for global environmental problems. Socialist countries have proved as environmentally destructive as the West. The production system of socialist states is not significantly different from that of capitalism in terms of methods and goals. Like the capitalist system, the socialist system takes economic growth as the central concern, and tries to increase wealth, GDP and so on; it involves waste and causes massive ecological damage. Likewise, governments in "Third World" countries are also responsible for the global environmental crisis. They sell the natural resources of their countries to transnational corporations under the pressure of big external debts, in the name of development and modernisation. They have destroyed the economic basis of peasant farmers, pastoralists and the urban poor through the application of modern technologies.

Thus, the problem is complex-inside the "Third World" nations as much as outside them. In any case, one may say that capitalist countries are more responsible than noncapitalist countries for the global environmental crisis because of the expansion of modern technologies and the unlimited exploitation of the global environment by transnational corporations.

What must be clear is that environmental questions are not simply ethical. Environmental and development issues involve more than moral persuasion. They cannot be addressed without taking political power into account. In order to address global problems there have to be major changes at political and ethical levels. Both capitalist and noncapitalist countries have to note that unlimited growth for indefinite period of time is not possible. They cannot have economic growth, growth in consumption and pollution indefinitely in the world. The Earth

has limited natural resources. We have already faced global ecological problems including rising sea levels, the melting of the polar icecaps, shortage of fresh water, ozone layer depletion and so on. Therefore, all the concerned parties should be willing to change the present system. They should control the movement of transnational corporations. They have to develop alternative attitudes towards nature.

I would thus suggest that new mechanisms must be sought to enforce global environmental laws. There should be a way to punish countries which violate international laws. Otherwise global environmental and development solutions through ethical rules would be unrealistic, although I share the view held by Dower (1998) that ethical reasoning can make a difference. At the present time, many capitalist countries and transnational corporations are not willing to undertake attitudinal changes.

However, I would argue that if powerful capitalist countries and transnational corporations are not willing to do so, they could only exploit global resources for a short period of time. One day, the TNCs exploitation of global resources will collapse. To put matters another way, it is not physically possible for powerful self-interested states and transnational corporations to continue to grow indefinitely without global consequences. Some form of collapse is inevitable.

Yet it will not be an easy task to change people's attitudes and promote environmentally and socially sound practices within a short period of time. I have raised various issues in this paper in order to demonstrate the significance of environmental ethics; I seek to provoke a far-ranging debate. I am hopeful that, despite the criticism of the contribution of ethical study to the environment, if we critically study environmental theories in different parts of the world, eventually all these little things will bear fruit. That is why it is important to try to raise awareness. The ideas of environmental ethicists and theorists have had an impact on the natural environment. The Precautionary Principle (which urges intervention to prevent possible disasters in advance of the availability of scientific information) is an ethical principle and is increasingly embodied in legislation of various governments, for instance in European Union legislation and in the Maastricht Treaty (Michael D Young, cited in Attfield, 1999:185), and at the same time supported by environmentalists. Moreover, "the Kyoto agreement [about emission quotas] owes some amount to the Precautionary principle" (Attfield, 1999:186). The Precautionary Principle is one possible response to the necessity of decision-making in conditions of uncertainty. Thus, environmental risk assessment is not solely science-based, but that its requirements are based on value commitments such as the precautionary principle.

3. CONCLUSION

Various environmental ethicists have put forward their own proposals concerning how human beings can live with the natural environment. Some of them argue that the natural environment has instrumental value and should be protected for the sake of human beings. Others are of the opinion that all living things have moral standing and require respect from human beings. And other environmental ethicists argue that both living and nonliving things have intrinsic value beyond the interest of human beings. They argue for certain moral obligations toward ecological wholes, such as species, communities, and ecosystems, not just their individual constituents. Again others argue that environmental ethics is not useful to the environment.

But I have argued that the last position is not tenable, and that environmental ethics is important. It can encourage people to try to combat the influence of powerful countries and corporations. Modern environmental ethics and related theories can address a vast array of problems that indigenous knowledge cannot even understand. Various environmental ethicists have contributed to the debate about values in nature, humane treatment of animals, the conservation of endangered species, pollution, environmental policy; the treatment of women, the rich and the poor, distribution of resources, North versus South, sustainable development, and the growth of human population, and thereby influenced the people and governments to pay attention to these and other related issues. Thus, environmental ethical theory can be applied to real-world environmental problems. I have further argued that although ethics is important and may influence power and its exercise, we still cannot rely on ethics alone to tackle environmental, development and political problems. To be really effective, the question of power should be looked at in a different way.

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