INTRODUCTION

It was at Stockholm that, after world leaders were shocked at the extent of havoc done by man to the environment, of which he is but a part, the resolution was made that the United Nations Educational, Scientific and Cultural Organization (UNESCO) and other international agencies concerned should establish an international program in environmental education, interdisciplinary in approach, encompassing all levels of education" (United Nations, 1972). Such was the first global recognition of environmental education as a strategy for the protection and improvement of the environment and its quality (Santra, 2001). By 1990, UNESCO-UNEP declared teacher preparation to teach environmental and sustainability education as the "priority of priorities" (UNESCO-UNEP, 1990, p. 1). Subsequently, important initiatives have been taken for teacher education, which includes the UNESCO Chair on Reorienting Teacher Education for Sustainable Development, the UN DESD, and the GAP. UNESCO has supported the integration of ESD/EfS in initial teacher education through Priority Action Area 3: Building capacities of educators and trainers (UNESCO, 2017b). However, the role of philosophy in any field of education and education generally is a more profound issue that goes back to the works of Plato through Dewey and Whitehead to Aldo Leopold. As Hagrove (1989) has observed, philosophy is the primary source of most western ideas, and in Leopold's submission, there can be no substantial change in culture and society without foundational philosophical considerations (1948). Leopold argued repeatedly that ecological education was backward in twentieth-century America because prevailing conservation efforts lack philosophical and ethical foundations.

This paper aims to consider how education can intervene in the environmental crisis through environmental education. Its objective is to bring the goals of environmental education into the circumference of the general objectives of education. The paper argues that the virtue ethics philosophical perspective offers a significant framework for environmental education. It takes as its first premise the foundational role which moral philosophy plays in the conceptualization of educational objectives. Following the Stockholm Conference in 1972 UNESCO and UNEP subsequently undertook to prepare curricular materials, establish priorities, develop pilot projects, and organize meetings. The result was an UN-sponsored Conference at Tbilisi, Georgia in 1978. Despite considerable progress, both conceptually and practically, there are serious differences about the goals and methods of environmental education that reflect and, in some ways, amplify larger disagreements about education (*Orr and Bastianoni, 2019*). Without going into such controversies and technical subtleties, this article gives an overview of virtue ethics as a promising philosophical framework for environmental education.

A PURVIEW ON VIRTUE ETHICS

Virtue ethics theory goes back to Aristotle who in the *Nicomachean Ethics* identified human flourishing or happiness (eudaimonia) as the essence of morality and identified virtue-character formation as the way to moral rectitude and social order. It may, initially, be identified as the one that emphasizes the virtues, or moral character, in contrast to the approach that emphasizes duties or rules (deontology) or that emphasizes the consequences of actions (consequentialism). According to Ariche (2018) virtue for Aristotle is the state of character, the disposition which makes a man good and causes him to perform his functions well... it is achieved by observing the mean between excess and defect" (36). Although modern virtue ethics does not have to take a "neo-Aristotelian" or

eudaemonist form (see section 2), almost any modern version still shows that its roots are in ancient Greek philosophy by the employment of three concepts derived from it. These are *arête* (excellence or virtue), *phronesis* (practical or moral wisdom), and *eudaimonia*(usually translated as happiness or flourishing). Traditionally, virtue ethics holds that virtue can be learned through the practice of virtuous actions like kindness, honesty, justice, etc, which can develop into a habit and from habit into character.

The goal of moral goodness by virtue ethics orientation is happiness or fulfillment or flourishing of the individual in society. The Greek word for all three words according to ancient Greek moral philosophy is *eudaimonia*. But "happiness" or "flourishing" and occasionally "well-being" each has its disadvantages. The trouble with "flourishing" is that animals and even plants can flourish but *eudaimonia* is possible only for rational beings. The trouble with "happiness" is that in ordinary conversation it connotes something subjectively determined. It is for me, not for you, to pronounce on whether I am happy. If I think I am happy then I am—it is not something I can be wrong about (barring advanced cases of self-deception). Contrast my being healthy or flourishing. Here we have no difficulty in recognizing that I might think I was healthy, either physically or psychologically, or think that I was flourishing but be wrong. In this respect, "flourishing" is a better translation than "happiness". It is all too easy to be mistaken about whether one's life is *eudaimon* (the adjective from *eudaimonia*) not simply because it is easy to deceive oneself, but because it is easy to have a mistaken conception of *eudaimonia*, or of what it is to live well as a human being, believing it to consist largely in physical pleasure or luxury for example.

As Callicott has observed, "the prevailing bicameral governance of moral philosophy" in the Western hemisphere by utilitarianism and deontology has been weakening since the late twentieth century and the early 21ˢᵗ century in face of a "robust revival of virtue ethics" (2013, p. 251). Reintroduced by G. E. M. Anscombe and reestablished by Alasdair MacIntyre, Virtue Ethics became a vigorous growth area in moral philosophy and has also made its appearance in environmental ethics. One of the areas of virtue ethics reincarnation is in the field of environmental protectionism. Environmental ethics is not exhausted by debates about the need to preserve rivers, our duties to bioregions, and the intrinsic value of nonhuman nature; rather, eco-literature also contains a rich assortment of virtue language that demands nature protection from a virtue ethics orientation. In 'Thoreau, Leopold, and Carson: Toward an Environmental Virtue Ethics" Cafaro explores Leopold's Land Ethic from the perspective of virtue ethics and argues that Leopold provides 'eudaimonistic' reasons, intrinsic motivation perspectives, for environmental protection and the respectful human relation to nature. This takes us to a consideration of environmental virtue ethics.

ENVIRONMENTAL VIRTUE ETHICS

Aldo Leopold's Land Ethic offers ample introduction to what environmental virtue ethics is about. Philip Cafaro has proficiently explored Leopold's Land Ethic from the perspective of virtue ethics, observing that Leopold provides "eudaimonistic" reasons for the human-nature relationship. While Leopold's classic essay "The Land Ethic" makes a moving plea for moral extensionism and human self-restraint, he devotes much of A Sand County Almanac to showing the opportunities for knowledge and self-development made possible by a greater attentiveness to nature. A Sand County Almanac explicitly and repeatedly asks us to recognize our "enlightened self-interest", contrasting it with a benighted, economic

and mistaken definition of self-interest. Combing through popular and scholarly environmental ethics literature, Louke van Wensveen draws attention to a list of 189 environmental virtues and 174 environmental vices. Wensveen (2000) gives examples of ecological language involving appeal to virtues/vices as follows:

1. Care for our bioregions
2. Respect trees
3. Show compassion for animal suffering
4. Be humble and wise in the use of technology
5. Be frugal and creative in the use of limited resources
6. Have hope in face of an impending global disaster
7. Avoid arrogance of anthropocentrism
8. Stop being cruel in our treatment of animals
9. Admit we habitually project our fears onto nature
10. Halt our greed and manipulative exploitation of natural resources

Leopold calls for love, respect, and care for nature as human-environmental virtues and maintains that such conduct is essential for human flourishing; while behaving rudely (conqueror attitude) towards nature is "self-defeating". Leopold further praises the virtues of the nonhuman world: the "grace" of the plover, the "valor" of a chickadee, the "accumulated wisdom" of a stand of pine trees. Thus the Land Ethic amounts to an argument for land virtues in human conduct, namely, behaviors that would foster the "integrity, stability, and beauty" of biotic communities. The works of Thoreau and Carson also offer Virtue Ethics perspectives. Carson particularly denounces the unfounded "arrogance" of human scientific disruptions of nature and calls for "humility" in tempering with the vast resources of nature. Taylor (1986) also draws on the virtue ethics perspective when he argues that man's respect for nature is ultimately for the good of man who actually cannot survive without the lower creatures, whereas these would do greatly well without human interference in their systems. In this connection, Ariche 2018 also maintains that "there is a need for ecological civility through rational cooperation with other members of the ecological community" (p. 216)

A virtue ethics framework can also be employed in comprehending and responding to the ruthless and ravenous expansionism of the multinational oil empire in Nigeria's delta. UNEP's (2011, p. 215) Environmental Assessment of Ogoniland uses virtue ethics land language in recommending an awareness campaign, an informal environmental education, for those who undertake bunkering and artisanal refining in the territory. The document appeals to the enlightened self-interest of the natives in recommending that the population be educated concerning "the disproportionate nature of the short-term financial gain set against the medium to long-term health consequences, both to the individual and to the broader community". It is also arguable that a virtue ethics orientation and approach to oil business would have helped the multinational oil companies deal more fairly with the environment, which enlightened approach would have lengthened their days in Ogoniland.

VIRTUE ETHICS AND ENVIRONMENTAL EDUCATION
From the foregoing, the urgency of ecological education emerges as a corollary to the environmental crisis. Leopold does not mince words in pointing to inadequate ecological education as "the most serious obstacle" that stands in the way of the land ethic. He maintains that the evolution of a land ethic is seriously impeded by the absence in both our educational and economic policy of focused attention to land (p. 261). He further insists

again that an ecological comprehension of land is not possible without an understanding of ecology:

> One of the requisites for an ecological comprehension of land is an understanding of ecology, and this is by no means co-extensive with 'education'; in fact, much higher education seems deliberate to avoid ecological concepts. An understanding of ecology does not necessarily originate in courses bearing ecology labels; it is quite as likely to be labeled geography, botany, agronomy, history, or economics. This is as it should be, but whatever the label, ecological training is scarce (p. 262).

The contention being made here by Leopold is that knowledge is an essential precondition for cultural change. And such ecological knowledge as needed in the land ethic is not to be expected from merely fanciful course titles; it is to be cited from painstaking ecological education. Describing the situation of his day in terms of the indisputable need for sound ecological education, Leopold writes;

> When one asks why no rules have been written, one is told that the community is not yet ready to support them; education must precede rules. But the education actually in progress makes no mention of obligations to land over and above those dictated by self-interest. The net result is that we have more education but less soil, fewer healthy woods, and as many floods as in 1937 (p. 245).

Leopold's perspective explores the peculiar virtues of the naturalist, which should be top on the goals of environmental education: patience, eagerness, physical endurance, persistence, a keen perception, skill in making fine distinctions, precise description. Such activities make us happier and better people, he suggests. They allow us to pursue knowledge and enrich our experience, without diminishing nature. Leopold asks us to conceive our own flourishing in ways that sustain —indeed, depend on— the flourishing of the natural communities of which we are part (8-9).

According to Akanji (2019), environmental education empowers individuals, groups, and institutions to properly explore environmental issues along with thoughts and activities for environmental sustainability. It seeks to develop a deeper understanding of the environment across divides. Some of the components of environmental education are:

1. Awareness and sensitivity
2. Knowledge and understanding
3. Promotion of positive attitudes
4. Skills development
5. Improved inclusion

Environment education encompasses both environmental training and information. In the words of Ariche 2018 "there should be proper education and enlightenment on environmental education and it should be included in our curriculum and taught from primary to tertiary level"(p. 216). Benefits of Environmental Education as the Following:

1. Imagination and enthusiasm are heightened
2. Learning transcends the formal settings
3. Tolerance and understanding are supported
4. Integration of sub-national, national and international standards
5. Biophobia and nature deficit disorder declines
6. Communities are strengthened
7. Responsible actions for environmental management becomes more acceptable

Here one can see a blend of environmentalism and a virtue ethics perspective. The perspective is that a virtue approach to living with nature is essential to nature preservation and human flourishing. Hence calls for love, respect, and care for nature as human obligations. And he insists on "stability, integrity, and beauty" as central 'virtues' that must be preserved in nature. Cafaro captures other virtues of nature scribed by Leopold in vivid terms:

> Reading A Sand County Almanac, it is striking how often Leopold praises the virtues of the nonhuman world: the "grace" of a plover, the "valor" of a chickadee, the "accumulated wisdom" of a stand of pine trees— natural wisdom which silences the people who walk below—the "harmony" of a river ecosystem (p. 9).

In this Leopold takes environmental ethics back beyond Aristotle to Homer, who could speak of the arête (virtue, excellence) of a horse and all Greece would understand him. Callicott also highlights the educational aspect of Leopold's environmental philosophy. He spotlights Leopold's naturalist emphasis on reading nature like a book. He questions why education should not consist in learning to read the land as much as in learning to read a book. He questions the universal assumption that equates learning with literacy and education with bookish learning. He counters and deflects this assumption with the metaphor of "reading" nature. He maintains that nature is "an open ever-present book for those who can read her signs and who possess an active intelligence" (1989, 226). He calls for an educational revolution in which nature learning would not necessarily be inverse to book learning. He calls for a review of academic disciplines and what Whitehead had likewise called "bifurcation" of the sciences, the destructive emphasis on their separateness and autonomy. He decries the fragmentation of the sciences and their isolation from philosophy and the humanities, from poetry, music, literature, and art, thus making science destructive. A good scientist, he insists, must be sensitive to the wider emotional, evaluative, and philosophical implications of scientific investigation and discovery. He observed that narrowly specialized scientists lacked the breadth of interests and overall cultural background needed for the sciences to contribute effectively to human fulfillment and well-being (eudaemonia). He, therefore, sees environmental education as a re-orientation of humanity, a re-alignment of the human person, with his or her environment.

The point in the foregoing is that the virtue ethics orientation prepares the individual and society to live respectfully with nature as a matter of moral virtue, a lifestyle for happiness, and personal and community fulfillment. In fact, only by a virtue ethics orientation is it possible, it seems, to actualize a great measure of the demands of environmental protection. For after all the bookish learning character formation and change of behavior remain the decisive goal of all education, and of environmental education especially. And the virtue ethics tradition is a case of learning virtue progressively as part of human maturity for human fulfillment and well-being. So environmental education becomes an integral part of moral character formation for participation in society.

EVALUATION AND CONCLUSION
Ethics or moral philosophy has been at the foundation of education from Plato to Aristotle and not only in Greece and Rome but from West to East and from North to South. Indeed even in African traditional education moral virtue stood at the very center of the informal

education structure. Accordingly, moral philosophy also stands as a foundational ingredient for a successful environmental education in an age when the environmental crisis poses to be the greatest potential and actual threat to the survival of human civilization. This article sought to consider the viability of virtue ethics for this critical job.

It appears the philosophical foundations of environmental education would be characteristically eclectic and theoretically interdisciplinary. This seems reasonable from the diversity of philosophical perspectives. Deontological and consequentialist ethics would have their place in environmental education, but the role to be played by virtue ethics seems to override all others in terms of practical relevance and depth of influence on human relation to nonhuman nature. The virtue ethics tradition has the advantage of being practical and avoids getting the ethical project drowned in a sea of theoretical and conceptual controversies.

Traditional moral language of the Kantian and utilitarian sort has difficulties adapting to the needs of the ecological crisis. For instance, the very idea of rights for trees appears absurd from theory to practice. The virtue ethics perspective on the other hand is a rich moral discourse rooted in transformative practice. Virtue environmentalism engenders not toughness, but humility and sensitivity; not efficiency, but sustainability; not shrewdness, but wisdom and vision. Building this into the educational objective at all levels of curriculum development and implementation thus appears a groundbreaking step in human response to the environmental debacle. Environmental virtue ethics would thus emerge the new civics that all who obtain any measure of education at all must learn.

The virtue ethics tradition points straight at why a change of behavior is urgent, namely, man's enlightened self-interest, his flourishing, his wellbeing within the ecological universe within which he is inexorably located. He must therefore for his own sake and for the sake of other members of the ecosystem on which his own survival depends, learn to live an environmentally virtuous life. He must learn the environmental virtues of humility, wonder, respect for nature, kindness, and love towards other members of the ecological community, as well as avoid the environmental vices of arrogance towards nature, selfishness, wastefulness, and destructiveness. All of these and more would factor into environmental education at all levels of education, in school and out of school, to make the UNESCO-UNEP motive of reviewing human relation to the environment realizable.

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