ENVIRONMENTAL EXPLOITATION AND OUR OBLIGATIONS TO FUTURE GENERATIONS

BY

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DECLARATION

This thesis is my original work and has not been presented for a degree at any other University.

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This thesis has been submitted for examination with our approval as the University Supervisors.

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DEDICATION

TO ALL MY FAMILY MEMBERS,
FOR YOUR SUPPORT, PRAYERS AND PATIENCE.
YOU ARE MY INSPIRATION AND HOPE.

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ABSTRACT

In the face of the many pressing problems experienced on a global scale, one encouraging development is the increasing number of serious efforts to cope with them so as to find the means to build the sort of a society that has the capacity to deal with the problems confronting mankind.

Among the intellectual efforts is the critical examination of the extent to which the past and present generations have utilized the environment to the detriment of succeeding generations or what we commonly refer to as future generations.

This study sets out to help advance environmental philosophy by providing some literature to empower both ordinary people and leaders to act so as to create a better future for themselves and their children.

The study has critically examined the reasons and consequences of unwise utilization of the environment. It has found that while some of the reasons apparently look genuine, they are flawed in as far as obligations to future generations are concerned. Some of the reasons offered have dire consequences to the future generations.

As a solution to the realization of obligations the present generation owes the future generations, viable options and steps of action that seem more appropriate and dignified are proposed. This is done cautiously so that neither the needs of the present generation nor those of the future ones are compromised.

It is our hope that this study will immensely contribute to scholarship by providing a fundamental insight into some environmental issues to individuals, organizations, academic institutions and government policy makers in seeking lasting solutions to the problems affecting the environment.

It aims at encouraging the present generation to spend more time looking forward, discovering the alternative possibilities for the future in the present and forecasting the probable consequences of our present actions.

CHAPTER ONE

1.1 Background to the Problem

We come to terms with reality when it awkwardly confronts us. There is so much pressure on the environment today such that what was hardly treated as a subject of systematic study has all of sudden taken a central focus. There is today a growing concern with the issue of study and the preservation of the environment.

We are faced with welfare related problems. These problems include a rising population growth with very few resources, increasing gap between the poor and the rich nations, pollution, threats of an all out nuclear war, depletion of forests, just to mention but a few. Due to the rising tide of environmental crisis, we should seek ethical guidelines for meeting fundamental problems like how to achieve a better distribution of world resources. This can decrease the existing gap between the poor and rich nations. Alternatively, we can wait until drastic change is forced upon us by the problems we have helped to create. Our existence is threatened by environmental deterioration and the best we can do is to adopt a new environmental philosophy.

The status of the current environmental philosophy is inadequate on grounds that it is restricted to the immediate space and time. As A. J. Vetlesen (Constellations; 1995:378) observes,

> "the maxims developed in ethics thus far have been naively pre-occupied with and so restricted to the immediate spatio-temporal environment in which a piece of action takes place. Hence only consequences visible and expectable within a very limited

geographic and temporal horizon have counted as ethically relevant."

It is our view that the present environmental philosophy rests on this misdirected thinking. It gives precedence to the priorities of the present generation. Due to this ignorance, we gang up all our tools of exploitation with a view of interrogating and manipulating the environment as if there is no future.

Hans Jonas (Constellations Vol. 1, 1985:378) is quick to point out that

"with the advent and increasing dominance of modern technology, the parties affected by our actions here and now are often not only far away in distance but also absent in the sense applying to those not yet born -i.e. future generations."

We seem to be aware that the negative consequences of our actions are impacting on the future generations yet we do not want to rise up and start assuming moral responsibility for them. However, Vetlesen (Ibid: 378) observes that

"Today ethical thinking must address the following fact: the survival of humankind is endangered through the effects of human acts. As moderns, we have to face squarely a concern never entertained by the generations preceding us: the continued existence of humankind must be defended and secured."

The challenge is to start assuming moral responsibility not only with a view of what has happened or what is happening but also with a view of what may happen.

Can we possibly assume moral responsibility for the future generations? Garret Hardin and Richard T. De George (Sterba: 1991) have argued very strong cases against helping the poor and whether we owe the future anything respectively. De George's argument is that because the future generations do not exist, they do not have any rights nor do we have any correlative obligations to them. Hardin, on his part, argues that distant peoples should be left alone to sort out their problems.

There arises the problem of whose rights should be our immediate duty; whether it is the rights of the present generation or future generations. It is an empirical fact that the unborn individuals cannot stand up and claim their rights but it is also questionable whether we should exclude them from tomorrow's audiences of affected parties. The problem is whether the future generations should be mere subjects of our responsibility and whether they have a basic right - the right to a life on an ecologically habitable planet.

If we are seriously concerned with the plight of the future generations, there are some issues that we should strictly consider. Firstly, we should consider whether there is an ethical framework within which the existence of rights to them can be substantiated. Secondly, we should consider whether the recognition of such rights of the future generations would diminish the extent to which the needs of the current individuals are served. By substantiating the rights of the future generations, then we can start talking of our obligations to them. As Schrader Frechette (1991) notes, we would dread a situation

where affirming obligations to future generations may necessitate denying certain rights to the present generation. Both the present and future generations are important and it would be morally wrong to compromise one at the expense of the other.

The issue of whether we have obligations to the future generations qualifies as a moral problem on a number of grounds. As Botzler and Armstrong (1998) observe, moral philosophy endeavours to search for knowledge of the good life and right conduct. Its subject matter is human conduct as it relates to the attainment of moral value. Moral philosophy is concerned with how human beings ought to act rather than with in fact how they do act. In the face of our problem, we want to establish whether the future generations are right-holders and therefore subjects of our obligations.

However, we will confine ourselves to environmental ethics as a particular field in moral philosophy. As Botzler and Armstrong (Ibid.) further observe, the subject matter of environmental ethics is the moral aspect of co-existence of human beings with their natural surroundings. The concerns of environmental ethics are the moral dimensions of all our actions and intentions referring to the necessary attributes and conditions for our very existence. Oruka (1997) discusses at length why we, as the moral agents, should be responsible custodians of nature. As moral agents, we have the means of taking care of our environment, not only for our sake, but also for the sake of future generations. Frankena (1985) also gives a lengthy account of the business of ethics. Ethics, according to him, is a philosophical thinking about morality, moral problems and moral judgements. To sum up the role of environmental ethics, it is the field of inquiry that addresses our ethical responsibilities to the environment. Do we have such responsibilities for the future generations?

1.2 Statement of the Problem

During the past few decades, environmental issues have been receiving very close attention. Conferences like the United Nations Conference on Environment and Development (Rio de Janeiro: 1992) and the World Conference of Philosophy (Nairobi: 1991) have been held. Even commissions like the Brundtland commission (The World Commission on Environment and Development: 1983) and the Brandt Report (1980) have been set up. All these have been done from a growing concern of addressing environmental issues that at the moment threaten the existence of the entire globe. As stated earlier, there is at the moment a whole despoliation of the environment coupled with the rapid depletion of non-renewable resources like oil and the prospect of a crushingly overcrowded planet.

It is inevitable that we have to continue utilising the resources from the environment despite the looming environmental problems. What with the ever-increasing demands on food, shelter, health, just to mention but a few? In the face of all these needs, most of which are engendered in the environment, can we possibly utilise the environment while at the same time considering the stakes held in the same by future generations? Should we have a moral sense of obligation to deny ourselves in the present in order that people will live better at a time when we will not be there to participate?

From the foregoing, there are a number of difficulties concerning whether we have any obligations to the future generations. On one hand is the view that future persons are contingent (not actual) beings and therefore we do not have any obligations to them. This means that the present generation is at liberty to utilise the environment for its

immediate needs without due consideration to the needs of the future generations. After all, the argument is that we do not know the desires and needs of the members of the future generations and therefore at present, we do not have any obligations to them. As non-existent people, they have neither rights nor interests. On what grounds then should we include their potential rights and probable interests into deliberations of what we should do?

However, there are others who hold that since we often have duties not to jeopardise the welfare of contingent or unidentifiable persons in the present (e.g. anti-abortionists argument that abortion infringes on the rights of a potential human being), likewise we have similar obligations to such persons in the future. The argument is that future persons need our care and that our ability to meet their needs entail our obligation to do so. They therefore conclude that we must ascribe the same basic rights to future generations as we claim for ourselves.

From the arguments above, it is not clear on what basis we should make sacrifices for the future generations yet they are non-existent. Are future generations right-holders and if they are, is there an ethical framework within which the existence of such rights can be substantiated? If they are not right-holders, should our obligations be restricted only to the present generation? Do we have a moral obligation to safeguard the environment for the future generations? There are no clear-cut answers to these questions as they are open to debate. Finding the most compelling answers to these issues is in fact what motivates the purpose of this research.

1.3 Objectives

1. To establish whether future generations have rights and whether we have any obligations to them.
2. To provide an insight into matters affecting the environment which superficially may appear to have little relevance to the survival prospects of the human race.

1.4 Justification and Significance of the Study

The ostrich, so goes the saying, buries its head in the sand when confronted by the danger of fire. This ubiquitous ostrich syndrome may be our greatest enemy as we attempt to cope up with the environmental crisis at hand. At the moment, we are faced with intractable problems that are not only obvious but also require urgent attention. However, instead of addressing ourselves to these problems, we are instinctively insulating ourselves hoping to wade through the environmental catastrophe in reasonable comfort.

Our study is justified on the ground that while it generally attempts to probe the question whether we have obligations to the future generations, it specifically highlights on the environmental problems we are globally experiencing. We often forget matters affecting the environment and even at times choose to ignore them. These matters superficially appear to have very little relevance to our survival prospects. However, if they are given the seriousness they deserve, then it becomes clear that they mean a lot to the chances of our well-being. The issue of our obligations to the future generations is an example. We may not tell with certainty for how long human beings will exist. A nuclear

war may wipe humanity out of the face of the earth if joint efforts are not put in place to prevent the prevailing arms race between nations. Secondly, human beings, through their self-interest pursuits, may deplete the environmental resource base. Whether this will be the case or not, we need to be focused on ways by which such eventualities can be avoided.

The environmental crisis we are experiencing may not be out of hand. Our concern is whether we can come up with ethical guidelines by which we can safeguard the environment for our sake and for the sake of the future generations. Whether we are ready to face the existing reality in the environment and start assuming moral responsibility for a sustainable future is the issue.

Philosophers are very well placed for this task. As a pursuit of knowledge, philosophy has the significant role of highlighting the problems affecting the environment and how they can possibly be resolved. We may suggest many possibilities hence enlarging our thoughts. However, as Bertrand Russell (1989:93-4) observes,

> "Philosophy is to be studied, not for the sake of any definite answers to its question, since no definite answers can, as a rule, be known to be true, but rather for the sake of the questions themselves; because these questions enlarge our conception of what is possible, enrich our intellectual imagination, and diminish the dogmatic assurance which closes the mind against speculation."

The purpose of this research would be generating a dialogue on the kind of ethical/moral philosophy that we ought adopt. Could these ethical principles possibly ensure or at least improve the satisfaction of our basic needs, i.e. the rights of the present generation while at the same time catering for the human survival, i.e. the rights of the future generations?

Our study, it is hoped, would be of importance to the social scientists, natural scientists and policy makers. This is because it would generate viable alternatives, based on ethical principles, and concerning what ought to be done to save the environment from further despoliation.

1.5 Literature Review

The philosophical enterprise has been gaining currency with philosophers giving suggestions of how we can resolve the problems affecting the world today. Over the years, philosophy has dealt with many ethical problems particularly in the socio-economic and social political fields. However, despite all these developments, environmental studies seem to have been given inadequate attention in the philosophical enterprise. This notwithstanding, there are some books, research papers and magazines that have made some impressive contributions on environmental studies. Such is the literature that will be under review here.

According to Hansdell (1976), the centre of concern in ancient Greece was the human world that consisted of social institutions and personal relationships. Thus, to Socrates, human world was the domain of knowledge since nature had nothing to teach

him. To Plato, nature was a mystery, inaccessible to any deep and reliable understanding since it could not be grasped in terns of the ideal forms.

More than twenty centuries later, it is in doubt whether it is still prudent to rely solely on the Platonic and Socratic doctrines. With their kind of approach in environmental issues, human survival may be doomed. Human survival entails the present generation conceptualising its requirements. As George Sommerville (1984, xviii) observes,

> "the golden age of man is slipping from our grasp. Mankind's problems in the last quarter of the 20th century, the "bomb", the world's exploding population and scarce resources, to mention but a few, could result in the destruction of the greatest and the most spread civilisation the world has known. Indeed, with the multiple dangers ahead, the extinction of the entire human race is not beyond the realms of possibility."

The list of the global problems today is inexhaustible. The escalating population growth has its associated problems. There is a projected food deficiency, problems of shelter, which has resulted in the growth of slums particularly in the developing countries. The basic necessities of life like proper sanitation and medication have evaded the better part of the developing countries. There is the issue of pollution. Gases emitted by industries in the developing world are threatening the ozone layer, which we need as well as the future generations. Waterborne diseases are threatening the marine as well as the human lives. As the Guardian (Feb. 19, 1998) reported, "In Bangladesh water from

wells dug by Western Engineers is contaminated with arsenic and 30 million people risk developing fatal cancers." Forests are being rampantly depleted partly genuinely to create more land for cultivation and partly out of greed. The implication is that whereas we are denying ourselves the aesthetic aspect of nature, we are busy doing the same to the future generations. There is the ever-present threat of an all out nuclear war with super-powers engaging in endless battles of supremacy as to who has the most lethal weapons. However, the present generation does not seem concerned with the magnitude of dangers these arsenals pose to the present generation, the future generations and the environment.

Most of these environmental concerns have culminated in our actions. In spite of all these perplexing problems confronting us, we are evidently reluctant or unable to face reality and tackle them effectively. We are apprehensive of the future and this indifference, coupled with apathy and anxiety is eating in our inner beings. This notwithstanding, the present generation has complex ingenious minds capable of adjusting to changing circumstances. Its thoughts and attitudes has the ability to discard moribund concepts and absurd prejudices. It can extricate itself from its current predicaments by diverting from the Platonic and Socratic conception of nature. Leonard Peikoff (1991: 214) observes that

> "man cannot rely safely on random impulse. If he is to protect his life, he has to assess any potential action's relationship to it. He has to plan a course of behaviour deliberately committing himself to a long range purpose, then integrating to it all his goals, desires and activities."

This has not been the case. We have placed ourselves at the centre of all activities. The environmental issues become our concern only in as far as they meet our desires and our presently pressing needs. The present generation therefore makes a false assumption that it is the measure of all things. Our activities today are therefore an attempt to survive. The danger is that these survival tactics are focused on our immediate needs though they disguise as long term solutions to our pro

blems. As Peikoff (Ibid: 217) further points out, "man can and must know not merely tomorrow's requirements or this season's, but very identifiable factor that affects his survival. He can assess not merely the proximate but also the remote consequences of his choices." The satisfaction of man's immediate needs is a fundamental prerequisite for his survival. But should that pursuit antagonise the needs of the future generations? From these observations, it would be proper to tie the notions of consequences and responsibility together. The consequences to our environment rest solely on how responsibly we utilise our environment. If we utilise it responsibly we would not only be catering for our welfare but also for that of the future generations. However, if we utilise it irresponsibly in view of our current and pressing needs, we would be putting the stakes held in the same by future generations in jeopardy.

Kwasi Wiredu (1980:61) observes that "our societies are being rapidly changed by industrialisation, and if we wish to understand this change and control its direction, we must adopt new ways of thinking, a new outlook upon man, society and nature." If new modes of thinking are not adopted, the resources in the environment will soon be depleted and the consequences will not only be grave for the present generation. The repercussions may be worse for the future generations. But how best can we alleviate the

environmental crisis? Will the present generation improvise ways of exchanging with the environment while at the same time taking into consideration the stakes held in the same by future generations? Wiredu does not offer solutions and it is our task to dig deeper into the problem and see how we can ethically reconcile the environment to us in view of the present and future generations.

This begs the question whether we, as the present generation have any obligations to the future generations. Assuming that we have such obligations, what is our rationale for the same to the future generations? Does our concern for the future generations help us in the present? In the past three decades, environmental issues have been taken with all the seriousness they deserve. However, it is still not conclusive whether our obligations should strictly be confined to the welfare of the present generation or whether they should be extended to the future generations also.

Richard T. De George, in his article, "Do we owe anything to the future" in Sterba (ed.) (1991) argues a very strong case against the plight of the future generations. According to him, we cannot have obligations to contingent beings on the grounds that they do not have rights. Our concern should therefore be primarily restricted to present generation. De George may be right. But would the recognition of the rights of the future generations diminish the extent to which the needs of the present generation are served? Do the future generations have rights? It would be worth investigating whether the future persons have rights and if they actually do, whether these rights are equal to ours.

Our obligations to the future generations may be too far-fetched if we, as the present generation, do not have obligations towards distant peoples. Garret Hardin's article, "Lifeboat Ethics: A case against helping the Poor" in Sterba (1991) advocates

strongly that the affluent society does not have obligations towards the problems facing people in developing nations. Hardin seems to be advocating for multiple worlds whereas our focus should be geared to one world with one future. If Hardin is right, the implications of our present actions have grave consequences to the future generations. If we cannot rise up today and share the resources from the environment with the needy - the sick, the starving, the war-ravaged, the displaced - of the world, then the issue of moral responsibility to the future generations does not make sense. But still, the arguments of Garret Hardin, while complex, are convincing as long as the affected people who are mostly in developing countries are ready to face up the challenges he proposes and notably among them population control.

In his model of the "Tragedy of the Commons"(1968), Hardin envisages a planet where the population growth rates ought to rise at the same pace in all regions of the world. When the growth rates are higher in some regions, Hardin believes that there emerges a conflict between the common good and individual advantage and this conflict necessitates more pressures, for example, on fossil fuels and over-fishing. He believes that while moderate use of a common resource may be the ethical solution to some of our environmental problems, the high population growth rates in developing countries only worsen the environmental problem which may be detrimental to the well being of the developing countries. Apparently, this position is justified in as long as the developing countries do not take action to safeguard their environment.

Yet there are others who think that that is not enough reason why we should not have obligations towards the future generations. There are others who believe that we often have duties not to jeopardise the welfare of contingent or unidentifiable persons in the present and likewise, we have similar obligations to such persons in the future.

Annette Baier's article, "The Rights of Past and Future Generations" in Ernest Partridge (1981) explicitly connects obligations to the future generations from the obligations the present generation owes the past generations. While this view may appear to be the theoretical basis for our obligations to the future generations, it does not seem to get much support from scholars. Martin Golding in his article, "Obligations to Future Generations", in Patridge (1981) argues that obligations arise in moral communities among beings who share a conception of a good life.

As such, we include as members of our moral community those for whom we can give content to the notion of the 'good for them.' His argument is that in principle, we can have obligations to beings whose claims we are ready to recognise as entitlements to receive good from us. As a consequence, the notion of an obligation to very remote future generations makes little sense since we have no clear conception of what the good of them will be. Another question that arises from this argument is whether we can we possibly know the good of the future generations.

Clayton Hubin (Philosophy and Public Affairs; Vol. 6:1976) argues that the notion of obligations to future generations - non-existent persons -makes no sense. However, he proposes obligations to the present generation in the social contract so that future generations in the social contract can have good lives. If Hubin is right, then there

is an extent to which the plight of the future generations has been given some consideration. Should this be the basis of our obligations towards the future generations?

The Commission on Global Governance (1995:47) observed that "people and governments alike need to pay greater heed to the interests of future generations for whom this generation acts as trustee." What this trusteeship entails are moral responsibilities of protecting and safeguarding the interests of future generations of which a liveable environment is one of them. At the moment, the increasing environment pressure is making the earth less habitable and life more hazardous. We
therefore need shared global values which may help us to see beyond immediate clashes of interest and act on behalf of a larger, long term mutual interest. The problem is whether our obligations should be geared towards our present needs as a prerequisite to those of the future generations or whether we should make sacrifices today in the hope that they will benefit the future generations.

In 1988, the Global Education Associates (Break through News; 1 996:8) initiated the Earth Covenant; A Citizens Treaty for Common Ecological Security. Among other things, they proposed commitments towards man relationship with the earth, relationship with each other, relationship between economic and ecological security and governance and ecological security." Assuming that the whole world was to adhere by these commitments, there would be a preferred future for the present generation and future generations. At the moment, however, man to man ethical relationship seems to have been neglected. Why should we then even talk of concern of future generations when we do not even meet our known obligations towards neighbours?

The existing literature on our obligations to the distant peoples and the future generations is as controversial as it is inconclusive. Our task is to dig deeper into the issues already raised and perhaps add more to that which already exists. By so doing, we would have lived with what commonly defines philosophy; a love and a search for wisdom.

1.6 Hypotheses

1. The satisfaction of man's immediate priorities from the environment need not antagonise the needs of the future generations.
2. The way the present generation exploits the environment should be compatible with the needs of the future generations.

1.7 Theoretical Framework

With an environmental crisis looming ahead, many philosophical approaches have been proposed to the study of environmental ethics. The mainstream theories include anthropocentrism, individualism and ecocentrism.

As a philosophical perspective, anthropocentrism asserts that ethical principles apply to humans only, and that human needs and interests are of the highest value and importance. Accordingly, the proponents of this perspective, notably among them Immanuel Kant, argue that our moral concern should be exclusively or largely restricted to human beings. Anthropocentrists often justify their position by citing unique characteristics of the human species. For example, Kant emphasises in his arguments the central role played by human capacity to reason. Apparently, this position seems to cater

for the interests of the future generations. However, it is our view that this perspective is built largely on the notion of man's self-interest. A moral system restricted to human beings alone is arbitrary, unjust and illogical. It could very well lead the human species to self-destruction. Environmental protection and the plight of future generations do not seem to get much support from the anthropocentric position.

Individualism, on the other hand, affirms that only individuals have moral value in and of themselves. Species and eco-systems do not embody moral value. Tom Regan in his article "The case for animal rights" (Botzler and Armstrong: 1998) points out that individuals are the paradigmatic holders of rights, since it is individuals who are conscious, who feel and make decisions, who care about what happens to them and who are centres of life. For the proponents of individualism, it is unclear what could be meant by attributing rights to collections of individuals. Individualism is a criterion for moral consideration that human beings have created to suit their ends. This approach, just like anthropocentrism, sounds more human-centred and does not seem to take into considerations the interests of the presently non-existent entities; the future generations.

Ecocentrism is based on the philosophical premise that the natural world has inherent or intrinsic value. Two types of ecocentrism are often described. On one hand is the "Land ethic" attributed to Aldo Leopold and on the other is 'Deep ecology' attributed to a Norwegian philosopher, Arne Naess. Land ethic, in contrast to anthropocentrism and individualism, proposes valuing nature in and of itself rather than only in relation to its significance for the survival and well being of human species.

To Leopold, human beings are participating members of the land community and therefore their actions can only be said to be right when they tend to preserve the

integrity, stability and beauty of the biotic community. The land ethic seems to get support from deep ecology, which involves itself in an intensive questioning of the value and lifestyles that have led to serious environmental problems. Deep ecology calls for a transformation of the fundamental principles guiding a long-term relationship with the environment.

For the purpose of our study, the theoretical framework adopted will be ecocentrism. Ecocentrism, by its assertion that we would have a long-term relationship with the environment, is the most suitable framework in that it does not only concern itself with our present needs but also with the needs of the future generations. Ecocentrism commits itself to a long-range purpose that integrates the goals, desires and activities of human beings into a sustainable future. This is as opposed to anthropocentric and individualistic approaches whose considerations are primarily focused to the environment of the presently living people.

1.8 Methodology

The method adopted in our research involves the use of secondary data. Our task is to expose and analyse ideas, facts and concepts in view of the threat to our environment and the stakes held in the same by future generations. The analytic inquiry is organised in such a way that the relationship between present generation, the future generations and the environment are clearly brought out. Special reference will be made to contemporary literature on environmental issues.

CHAPTER TWO

THE RELEVANCE OF ENVIRONMENTAL ETHICS

2.1 Introduction

Scholars in any field of knowledge face the problem of substantiating what they know. Environmental philosophers, for example, know so much about the environmental problems. However, beyond this, environmental philosophers attempt to answer the questions of how human beings are related to the environment. It is for this reason that they attempt a question like whether the present generation is obliged to take care of the environment for the sake of future generations.

Thus, environmental philosophers, first and foremost, encounter a conceptual problem. They have to define who the future generations are, whether they have rights, and so on. Issues like the possibility of human beings' co-existence with nature, as a partner becomes a very central problem in environmental philosophy.

Apparently, there are more environmental problems today than in some years back. Some scholars attribute these problems to a generation geared towards a pursuit of excessive materialism and self-interest. What is therefore good to the present generation is that which promotes their welfare without due considerations to the costs this may have on generations to come.

The existing environmental philosophy/education is therefore more focused towards solving the immediate problems of the present generation. As a result, the present generation does not seem to be in control of the environmental problems that

seem to be worsening daily. In as long as it achieves the highest good from the resources endowed in the environment, the present generation seem not to care for the repercussions of its actions to future generations.

From the foregoing, a number of moral issues arise. These issues include the problem of moral principles the present generation use to evaluate its actions and character and how these issues are related to other considerations that the present generation allows to guide its actions.

While these, and many others, are ethical problems, it is the moral questions regarding environmental exploitation and the obligations the present generation has on future ones that is of our utmost concern here.

In this chapter, we therefore endeavour to highlight what has brought about the environmental problems. Many scholars believe that most of our current environmental problems started with the advent of science and technology. Whether this is true or not will form the discussion of the first part of our chapter.

In the second part, we will discuss what environmental ethics entails. This is because it is the field which comes close to giving a moral assessment of the human beings/environment relationship. We will also discuss the two mainstream theories in environmental ethics.

In the last part, we will discuss the relevance of environmental ethics in the context of the problems facing the present generations and the probable ones in future.

2.2 Science, Technology and the Environment

When philosophers reflect upon the nature of science and technology, they constantly meet ethical questions. These ethical questions present themselves through a philosophical reflection upon the effects of science and technology. Today, the environment has been revolutionised through the influence exerted on it by science and technology in the past.

In the past few centuries, scientists have made many discoveries. Louis Pasteur, Isaac Newton and Alexander Fleming are just but a few scientists whose discoveries and scientific theories continue to have relevance in solving some of our contemporary problems. More recently, we have had scientists like Paul Muller who won a Nobel Prize for his discovery of DDT and Enrico Fermi, who together with a team of other scientists, produced the world's first nuclear reactor.

While these discoveries have helped human beings to overcome some of their problems, other discoveries have only complicated the problems. Pasteur's discovery, for example has contributed significantly to better storage of food while astronauts have used Newton's law of gravity. Muller's discovery of DDT has led to saving of lives that could have otherwise been lost from death by malaria. At the same time, DDT has been used to protect grains from destruction by insects. Fermi's discovery of the nuclear reactor may be used to generate nuclear energy hence saving some fossil fuels for succeeding generations.

These good intentions of scientists notwithstanding, their discoveries have had a dark side too. Muller's DDT technology is also known to have a potentiality for cancer.

When someone ingests grains prior protected by some insecticides, he may have genetic disorders or even develop cancer. The same case applies to Fermi's discovery; As a result of his discovery, other scientists developed the bombs that the United States used in Japan during the Second World War.

From the foregoing arguments, it is evident that science and technology have had mixed blessings. What is rather clear is that despite the myriad problems that have been blamed on discoveries of science and technology, the present generation cannot live without using the same. Today, the present generation is for example confronted by a population problem and this means it has to keep pace with the changes in social economy so as to produce more food. If the global economy does not improve, the present generation may be forced to make undue sacrifices for future populations which may be detrimental to its well-being.

It is on these grounds that we want to look at the ethical dimension of science and technology with regards to environmental exploitation and the future generations. Since ethics is a normative discipline dealing with good and evil as qualities of activities of human beings, it follows that the pursuit of science and technology falls under ethical norms.

We have already argued that science and technology have has good and bad results even to the present generation. This is a sufficient ethical reason to question whether such results will be passed on to succeeding generations and whether the undesirable effects of science and technology can be averted. The question points out to the issue of whether the present generation has obligations to the future generations.

The above issue is simple to resolve depending on the time frame fixed by the present generation. Obligations to the very near future generations make a lot of sense to the present generation. It takes its young members as part of this near future generation and as a consequence, its scientific commitment to safeguarding the welfare of this generation is very real. Thus, the present generation, considering the real stakes of its real successors, uses science and technology to exploit the environmental resources. Advisedly, this is done to maximise economic and social benefits for the 'real' future generations.

However, when it comes to grappling with the problem of what we may call remote generations; generations away in space and time, the idea of obligations to such 'people' makes very little sense to the present generation. As a result, the present generation uses science and technology to exploit the environment only for its sake and that of its immediate successors.

The problem is that, some time in future, such remote future generations may exist and find an impoverished environment that does not adequately meet their needs. While such generations, if they happen to exist, will not be living in isolation, (there has to be a 'present' generation at any one time), the contentious issue is whether they would be morally justified to lay claims on preceding generations due to the type of environment they would have inherited. This does not seem to make sense because the preceding generations would have gone.

However, it will still be a moral question on what these preceding generations ought to have done for the future ones. Consequently, it would mean that the present generation has an obligation to stop some further developments of science and

technology. This is because some of these innovations may work against the interests of future generations. This brings us to another problem regarding science and technology.

Today, some earlier discoveries of scientists are blamed for the environmental problems that the present generation is experiencing. The industrial revolution in Europe is partly blamed for most of the pollution problems, depletion of ozone layer and so on. However, these same discoveries have been instrumental in improving the economies of some countries, improvement of agriculture as well as may other areas.

This shows that science and technology may not have been the problem. It is the way in which such knowledge has been used that has led to the predicaments facing the present generation. The present scientific man, due to his vast knowledge, has the capability of using science and technology to his advantage, and by extension, to the disadvantage of others. The problems can be summed up as resulting from attitudes that have trickled down through generations.

It is such problems that need to be addressed as a prerequisite to answering the questions facing the future generations. It is therefore ethical for the present generation to peruse through the existing scientific and technological wisdom to see whether it has been compatible with past environmental exploitation. Many scholars think that the development of science and technology has superseded the ability of the present generation to use it. Wiredu in Oruka (ed.) (1994:340 argues that "the real cause of the environmental problem is to be found, in the fact that technology tends to grow ahead of wisdom and moral virtue." This implies that human beings in general, despite the progress in their discoveries, lack enough wisdom in applying their knowledge. It is for

this reason that we can argue that the present generation has failed to know what is in its best interest and what may be needed in future.

The result of inadequate knowledge only aggravates the environmental problem. Apparently, the present generation puts science and technology on the driver's seat while the environment is left hanging for dear life. Wolfgang Kluxen in Oruka (ed.) (1994) therefore suggests that the wisdom of humanity, and in our case, the present generation should be harmonised with the environment through dialogue with nature.

The implication above is that the present generation can use science and technology to realise its may potentials. This should, however, be done cautiously through adaptive action. The present generation should adapt itself to the environment, using it while conserving the same for generations to come. Kluxen (Ibid: 100) thus rightly observes that, "Nature responds to humanity's action and in the successful case will nurse humankind into a motherly way." The goal of science and technology therefore should not be using it to shape the environment but helping the present generation to understand it as a partner.

There are many options through which the present generation can live with science and technology without destroying the environment. Thus, the present generation should be morally responsible towards the environment. The present generation, as the generation in focus, therefore cannot avoid moral responsibility toward the 'absent' future generations. It can, for example, use the forests for is needs while planting more trees. It can build modern industries to promote more production while putting pollution checks on the same.

However, the present generation is fast in increasing production without due considerations on measures of curbing hazards which may emanate from this production. The present generation ought to be morally responsible towards the environment as a condition for their responsibility to future generations.

As a result of this assertion, the problem of standards, which the present generation should use as its basis of moral responsibility, crops up. However, this can evidently be deduced from the current state of the environment. This denies the environment of its aesthetic look. They have destructed the forests in pursuit of building materials, land and so on. The fresh water sources have been grossly affected by industrial growth, and many other examples.

It is our view that there are enough grounds for legitimate ethical concerns of why the present generation should feel a sense of responsibility towards the environment. Moral responsibility demands the present generation using science and technology to realise its needs and reconciling it with some other ethical considerations that favour the interests and needs of other potential dependants of the environment.

The environment, even with the advent of scientific progress, need not be experiencing problems. If anything, such developments ought to improve the quality of the environment. If the present generation can address causes of the environmental crisis, then it can act decisively to harmonise the environment, science and technology as well as future needs.

It is, however, the failure of humankind, and in this case the failure of the present generation, to use the available scientific and technological knowledge wisely that will be detrimental to the environment in future.

Wiredu (ibid.), applying Heraclitus who argued that learning of many things does not suffice to make one wise, therefore advises the present generation to use their knowledge wisely in reversing the environmental problems.

Unwise human intelligence, coupled with dangerous human values ought to be stopped if at all the present generation will cope with the existing environmental problems. It is human beings who use technology. However, technology, depending on how it is used will always have an impact on the environment. At the moment, the environment has been changed in many ways by the way past and present generations have used science and technology.

This confirms our earlier assertion that the environmental problem is therefore a problem of attitudes. It is for this reason that the present generation should look for a moral conscience of widened responsibility. This is because it has the twin responsibility of caring for the environment and for the future generations. It may need to adopt a new environmental ethics or make drastic changes to the existing one.

2.3 Environmental Ethics

As a branch of philosophy, ethics is used to refer to the sets of rules, principles and/or ways of thinking that guide the actions of a particular group of people. Ethics is therefore about guidelines of how people ought to live.

Generally, ethics is an age-old quest by human beings to understand the nature of the good life and to find the correct values and norms of conduct that would lead to the flourishing of human society. Values in any society are dynamic and therefore subject to change. They should be re-assessed time and again to suit the contemporary situation.

Environmental ethics is a sub-branch of the general field of ethics. It examines the moral basis of environmental responsibility, seeking to discover the right principles that should or ought to be applied in environmental exploitation.

Botzler and Armstrong (1998:2) define environmental ethics as the "field of inquiry that addresses the ethical responsibilities of human beings for the natural environment". On the basis of this definition, the main issue that is brought to light is that of ethical responsibility.

To have an impact, environmental ethics should not just confine itself to academic discussions about such ethical responsibility. It should also feature in the policy arena so as to deal with the global environmental conflicts like poverty, consumption and distribution problems and to show haw such conflicts can be ethically resolved.

There are many problems affecting our environment today and which the present generation is apparently unconcerned. Such problems include contaminated water sources. Since the present generation is more concerned with economic benefits, most industrialists do not care whether their industrial discharges end up in rivers. Toxics effluents and gases are discharged without considerations of the environmental health and equilibrium. This carefree attitude is later detrimental to people, marine life, and generally to the environment which is supposed to cater for the present and future generations.

There is also the problem of non-renewable resources like fossil fuels. Due to high demands of oil in running industries, farm machinery, domestic use and so on, the demand may soon outstrip the supply. This is because while more oil is needed, the existing known oil-wells are nearly dep0leted of this very necessary resource. The

present generation is aware of this pending problem. Despite that knowledge, it is not doing much to act for the future generations simply because such generations are only probable.

The environmental degradation has therefore resulted from a negative relationship which past the present generations have been harbouring towards the environment. Naturally, the arrogance of human species as the superior beings falsely mandates them to be tied to the anthropocentric bias where they feel that they are at the centre of the environment and that all the resources are at their disposal. This leads to insensitivity towards the use of the limited resources and when this is coupled with greed disaster looms for the future generations. This is because the current generation exploits the available meagre resources without due considerations of whether there will be some left for generations that will succeed it.

Ignorance, on the other hand, has played a negative role on the way the present generations utilises the resources. Skubik in Oruka (ed.) (1991: 261-8) gives an example of Burmese government. There was a need to refurbish Burma's weapons stockpiles. Its decision makers ignored the long term consequences of deforestation and went ahead to sell its large natural reserves of teak to Thai logging companies. This action, while bad enough for the present generation, has far reaching effects on future generations through destruction of water catchment areas, desertification and so on.

The above argument points to some very crucial issues in environmental ethics. On one hand is the fact that environmental ethics has been anthropocentric through the generations, emphasising achievement of human ideals while ignoring the interests of the environment. Over the years, the existing ethics has taken insufficient account of the

needs of non-human beings except in so far as these non-human beings have benefits to them. Thus, animals have been good in as long as they can subside human labour, trees in as long as they can be used for timber and so on.

Secondly, it highlights how human beings, following the age-old Protagorean dictum that 'man is the measure of all things', continue viewing the non human beings as only instrumental to their ends. This places the human species in an advantaged position, which explains their arrogance and chauvinism. What we may be inclined to value at first might on second thought be harmful to us in the long run. The resources have dwindled, and continue to do so, while the population has risen drastically in a very short period of time.

This puts the present generation in an even more precarious position in its attempt to answer the question of its obligations to future generations. If the present generation places an inherent value in the environment, value in itself, it will mean that nature will take its course and probably return to its former state. This would require that the present generation making some sacrifices, which, while promoting the welfare of the future generations, might infringe some of their rights to the environment.

However, if the present generation will continue placing only an instrumental value to the environment, a value that only promotes its end, then the environment will be further degraded and this will adversely affect the future generations in the long-run. Environmental ethics implies intrinsic or inherent valuation and not simply an instrumental valuation that is very characteristic of economists. This may be the type of valuation that the present generation has been lacking.

It is our view that between these two opinions lie the solution to environmental problems. There may be a desirable way that, while fulfilling the needs of the present generation, one also caters for the need of future generations without undue compromises to each other.

This problem has been addressed under two broad theories, anthropocentrism and ecocentrism. We will discuss these two theories and see whether they can be reconciled or whether there is one which the present generation should use as its basis of obligations to future generations.

2.4 Mainstream Theories in Environmental Ethics

As we have already seen, there is a strong and growing international consensus in favour of sustaining or protecting the environment. However, very little has been agreed on how this should be done. So far, most discussions of how to evaluate the environment have been based on one or the other of the two theories of anthropocentrism and ecocentrism.

These two mainstream theories represent the ambivalence between saving nature for future use and saving nature for its won sake, on one hand, and using it today for the well being of the present generation without much concern for those who will succeed it. The ambivalence, simply stated, is raided in form of a question by Walter C. Wagner in Frechette (1993:62) when he asks the question whether the present generation should have a moral sense of obligation to deny itself in the present in order that men will live better at a time when it will not be there to participate. The present generation can develop an ethical framework that can possibly guide its local, regional, as well as its

international efforts to protect the environment. It can decide to put future considerations as one of its priorities, while it can also decide on exploiting the environment as if no one else matters.

2.4.1 Anthropocentrism

As an approach to environmental ethics, anthropocentrism is the philosophical perspective arguing that ethical principles apply to humans only. Human interests and needs are of the highest priority and therefore, the present generation should be primarily concerned with non-human entities only as long as they have value to it. Moral concern is thus limited, largely or exclusively, to human beings.

The human species, so anthropocentrists argue, has unique characteristics. Botzler and Armstrong (1998) point out some of these unique traits as the human capacity to reason and to use language. This, they argue, is inherent in the philosophy of Immanuel Kant who argues that by virtue of their rationality, human beings can use the non-rational beings as a mean of furthering their interests. As such, Kant concludes that human beings are not tied to any responsibility towards the natural world.

Francis Bacon, writing over a century before Kant was born, is perhaps the greatest defender of anthropocentrism. Oruka (1992:6) argues that Bacon's

> "Philosophy of nature is one of the foundations of the culture of 'modern' western science and technology. In this philosophy, modernity and development are seen purely as the continuous domination and utilisation of nature to benefit human kind and human kind alone."

Quoting Hwan Yol Jung, Oruka (ibid) is even clearer when he states that Bacon exhibits anthropocentrism pure and simple, in his conception of philanthropia. Nature, with all her riches, is therefore enslaved so that human needs and interests are achieved. The goal of anthropocentrism is increasing the good for mankind. But it may also be the case that as human beings attempt to increase that good, they are ironically waging an ecological warfare against the environment which eventually will be a war against themselves. Through the conspicuous consumption and extravagant lifestyles of the present generation, it is fast depleting nature of its resources which may be needed in the near future and which those to come after this generation may even need more.

Anthropocentrism is strongly backed by economists who place value in nature only if it can be used to promote the welfare of the present generation and perhaps a few more generations in the future. In what Byran Norton (1996:2) calls 'economism' he asserts that it "is the theory of mainstream economists that environmental values are economic values." The value of the environment is seen only in as far as it has economic or what we may call utilitarian values that maximises the happiness of the currently living people. Consequently, elements of the environment have instrumental value only. Like other commodities, they are evaluated in so far as they fulfil human needs. This falsely gives the present generation dominion over the environment. This may look obvious and even necessary, but we will discuss in the succeeding chapters how the present generation can possibly satisfy its needs, exploiting the environment, while simultaneously nurturing it.

The resources from the environment are not only crucial for the present generation but also for human survival. Granted this, anthropocentrists argue that we

have an indirect duty to care for the environment. However, the duty derives from human interest. It is a duty that involves the assurance that the earth remains environmentally hospitable for supporting human interest. The argument is hinged on the premise that human interests come first and therefore the resources and the beauty of the environment should be preserved and enhanced to further such interests.

The pursuit of immediate interest by the present generation may therefore be termed as the greatest environmental problem today. The governments of developing countries, for example, are attempting to maximise economic development by exploiting their natural resources. Survival in the global world markets today demands full scale industrialisation and thanks to science and technology, manufacturing industries have been set up in all these developing countries.

Forest based development, for example, is fast taking root in that papers are needed everyday. Oil drilling is being given a trial in virtually all arid and semi-arid areas the world over. Momentarily, our economies (if all the resources diverted in that direction are put in good use) may thrive. However, in the long run, we may pay a very heavy price for simple mistakes that we might have overlooked. Logging in Brazil, for example, has led to over-exploitation of rain-forests and this might spell doom in the very near future. The problem is that the developing countries are blindly following the industrialised nations with the view that since the developed nations, through the same science and technology, have already exploited and converted their resources, they can serve as our principal models in our way forward. That may be our first mistake. While the purpose of development (be it industrial, social, economic or even political,) is to meet the basic needs of humanity, improving the quality of life for all and ensuring a

secure future, our short-term development policies, which we often confuse as long-range, may be directly opposite. We may meet all our present needs which will mean an improvement of our current quality of life. What will this mean to those who will be born a hundred years from now? While our indirect environmental duties ought to derive from our immediate benefits as anthropocentrists would argue, we ought also to be concerned on the benefits the future generations; the expected generations of people will receive.

2.4.2 Ecocentrism

Ecocentrism, as an approach to environmental ethics, holds that the environment deserves a direct moral consideration that in no way should be derived from the interests of human beings along. To ecocentrists, the environment has direct rights and therefore qualifies for moral personhood. This is the argument that the environment deserves a direct duty and that it has an inherent worth which is independent of anything else. Moral concern should therefore be extended to the environment.

Hefferman, J.D., in **Environmental Ethics 4** (1982), like other ecocentrists, argues a strong case for the ecosystems. His argument is that for anything that has interests that can be benefited or harmed, moral concern should be extended to it. Ecosystems have such interests and therefore quality as candidates for moral responsibility. The environment therefore has an intrinsic value which may be said to exist independently of human values and motives. As Horton (1996:10 observes, "Every life form is unique and possesses intrinsic value independent of its worth to humanity. Nature as a whole and the community of life warrant respect." This is a principle which

is equally shared by the **World Charter for Nature** (1982) whose aim is to promote the well being of the earth in the 21st century and beyond. The charter aptly puts it that the present generation must acquire the knowledge to maintain and enhance its ability to use natural resources in a manner which ensures the preservation of the species and ecosystems for the present and future use.

This, they believe, forms the basis of adopting an ecocentric model. The position of ecocentrism is that the environment is on a moral par with human beings. There should be an equal recognition of the equal intrinsic value of all beings. Historically, the environment has been denied rights and as Roderick Nash (**Cross Currents: 1998**) suggest, time has come when rights ought to be extended beyond human beings. Rights should be extended to trees as advocated by Christopher Stone (1974), to oceans and generally to the environment in all its diverse forms. Animals should be treated with respect and no wonder animal rights ethicists like Tom Regan and Peter Singer in Sterba (1991) are pre-occupied with the problem of moral rights for animals. However, the views of these animal rights activists should not be confused for ecocentrism. The case of these activists is hinged on the argument that if at least human beings, who fall in the class of animals, qualify as morally significant, on the same manner should the responsibility of the present generation towards the environment be hinged on the interests of other species.

Other scholars may not be comfortable with the position that advocates the recognition of rights to particular classes of the ecosystem. They argue that the agitation of such interests is furthering speciesism and individualism. Ecocentrism, as earlier

stated is all inclusive; Man and nature have value in themselves. It is Also Leopold's land ethic which best summarises the view that nature has a value in itself.

2.4.3 Aldo Leopold's Land Ethic

In his highly influential essay, "The land ethic" (1949), Leopold advocated for ecocentrism. Leopold argued that over years, morality has been evolving. What was good some centuries ago may have lived its usefulness today. During the state of savagery it may have been good to invent fire. It may have been desirable to clear forests for cultivation during the agrarian revolution in Europe. Today, the clearance of forests poses a major threat to the ecosystem. It may have devastating effects on the present generation as well as future generation through desertification and this will consequently lead to hunger. What was good in the past may be bad today and vice-versa. He believed that even long before the birth of Christ, morality aimed at harmonising society. The Greeks, for example, were pre-occupied with the morality of a good life.

The Ten Commandments given to Moses by God regulated to conduct between individuals in Israel. However, as time went by, the concern shifted from individual relationships to how the whole society related as witnessed in the Golden rule, that is, doing to others what you would like to be done to you.

As a consequence, Leopold argues that the evolution has brought the present generation to the brink of a new era morality where the conduct between the environment and human beings must be recognised and revised. This is what Leopold calls the land ethic. What makes his approach more radical is the fact that he at least recognises that in

all these phases of evolution of morality, man has been playing a central role of determining the course of the environment. The individual, Leopold argues, should never be independent but rather should be a member of a community of interrelating parts. The individual is therefore a part of the environment.

Leopold points out that since nothing is independent, the land ethic should include everything that the earth carries. Besides human beings the land includes of soils, waters, plants, animals, and so on. Leopold's thesis is therefore a radical shift from the way the present generation perceives itself in relationship to the environment. While the past and present generations have all along seen themselves as conquerors of the environment, a time has come when they should start seeing themselves as members of a community which includes the land on which they depend on for their survival.

There is a lesson from the Leopoldian thesis. The present generation can learn from the consequences of its attitudes towards the environment. If the present generation continues placing its interests before those of the environment, its actions will be self defeating. Although human beings ate the most rational beings, there are some inner complexities of the environment they do not know despite their advancement in science and technology. There is evidence to this. The present generation needs to look back to its otherwise short history and see how it has altered its environment through some irresponsible changes which it has imposed on the environment.

This recognition should teach the present generation that it cannot be in total control of the environment. However, the harsh reality is that the present generation needs the environment for its survival. The irony is that the present generation, in its attempt to survive forgets that while it cannot survive without exploiting the

environment, the latter can survive on its own. The environment seems to have an upper hand and this is the reason why it should be treated with respect.

Leopold therefore argues that what is needed is change. He is particularly not comfortable with the current conservation education to which he attributes the roots of the present generation attitudes towards environmental responsibility. The education in place, Leopold thinks, is pure propaganda campaign ultimately supporting the position that environmental responsibility should be guided by what is beneficial to the present generation. His proposal is that the present generation needs an ecological conscience which will eventually give rise to a land ethic. His argument is that in conservation issues, there is always a prevalence of two distinct mindsets. On one hand are those who view land in economic terms hence perpetuating the role of human beings as conquerors. On the other hand are those who understand the land more broadly and take human beings as a part of the environment. He thinks that the greatest obstacle towards achieving a land ethic, then, is the economic mind-set which, while rational, works against human beings in the long run. The economic mind-set dominates the thinking of the present generation and this may have grave repercussions to its succeeding members.

Our view, however, is that economic stakes have of necessity to be put into consideration. It will be naive to think that the present generation will down its tools and stop exploiting the environment. This is practically impossible on the ground that its population continues escalating meaning that even more resources may be needed to feed, clothe and shelter it. This, however, does not change the ecocentric position of Leopold.

What Leopold advocates is a moral conscience that will promote the good of human beings as well as the health of the environment. His advocacy is geared towards ways by which the present generation can sustain its imposed environmental changes without damaging the same. A greater good may result from a more and better reasoned exploitation of the environment while respecting the same.

This is one moral principle which the present generation has not keenly observed. A right thing has been that which promotes the economic as well as material benefits to the present generation. To Leopold (ibid), environmental responsibility is founded on the principle that "a thing is right when it tends to preserve the integrity, stability and beauty of the universe. It is wrong when it tends otherwise."

Ecocentrism, as an approach to environmental ethics, has had other proponents. Arne Naess, on his part, proposes Deep ecology. Deep ecology recognises the equal intrinsic value of all beings. Every thing that exists has value in itself and as a result, such existence should not be jeopardised. Oruka (1992), following Leopold's argument, supports the view that human beings have to live as equal to the rest of nature in a community of bio-diversity. In what he calls holistic ecology, Oruka (ibid:3) argues that "land ethic as a proposal for what should embody environmental ethics treats all inhabitants of the earth plus the earth itself to be as holy and valuable as human beings are."

Ecocentrists seem to agree on the fact that the natural objects deserve moral concern based on their intrinsic value. As such, moral concern should be extended beyond the level of human beings. Human beings, on their part, should assume

correlative responsibilities towards the natural objects. Only then should we say that the present generation is concerned with the welfare of the universe.

This is a basis of acting decisively on behalf of the environment. Common to ecocentrists is the idea that since natural beings have ends in their own human beings ought to treat each of them with respect to their purposes. Unfortunately this has eluded human beings with their claim of being superior to other objects. We should all embrace the Aristotelian telos; that some segments of nature have ends in themselves and extend our ethics to all the objects in our environment.

2.5 Do we Need Environmental Ethics?

We have observed that generally, the field of environmental ethics encompasses a valuation of attitudes of human beings. It provides an ethical framework of judging the goodness or wrongness of our actions. However, given this broad perspective of the field of ethics, it becomes necessary to concentrate more specifically on fields such as bio-ethics, legal ethics and environmental ethics.

At the outset, an environmental ethics provides a theoretical basis for an ethical framework that the present generation can use to explore its costs and benefits to future generations through its exploitation of the environment.

Due to the excessive pursuit of economic growth, it is imperative that economic health and preservation of environmental values cannot long diverge. Already, we have argued out a case for science and technology and pointed out that they cannot foresee every consequence of human actions in the environment.

As a result, while science and technology are geared towards improving the well being of the present generation, the same cannot be said of the future generations. Scientists have a problem of prediction on what some of their results will be. There is ample evidence showing the links between economic and environmental health. An example is the poverty problem that we will discuss in succeeding chapters. If a country is poor, the same applies to its environment because poverty invariably results in environmental devastation as people attempt to earn a livelihood.

Ultimately, environmental ethics becomes very relevant as it tries to look for ethically justified principles which can reconcile the environmental and the economic aspects. An example is the great discrepancy currently existing between individuals, nations and even continents in terms of resource endowment.

In what we may call environmental injustice, the developed nations have enough resources to alleviate some of the problems affecting the-poor ones as a matter of justice. However, environmental injustice is real manifesting itself in environmental terrorism where the poor nations become targets of pollutants from their rich counterparts. There is considerable evidence that the poor have experienced unhealthy exposure to various environmental hazards. Guinea Bissau is an example of a country which accepted the dumping of toxic wastes due to some factors beyond their control, the main one being poverty. Such pollutants are not only detrimental to the health of the currently existing people but also to the future generations.

Environmental ethics becomes relevant as a theoretical basis of looking for alternatives to such vices. It is well placed to evaluate human values like the above and even to propose value changes. These changes can then be translated into policies in the

decision making process. In the long run, they may be persuasive to the present generation in its choices and values towards the environment leading to a more sustainable use of resources in future.

However, it will be more prudent if environmental ethics moves beyond academic discussion into the arena of policy. There are many conflicts and civil strives in many parts of the world today. In such disputes, disaster is not a preserve of human beings alone. Animals, land and other life systems of the universe suffer too. The impact of such environmental devastation is injurious to the generations succeeding the current one.

Environmental ethics, in this sense, should be incorporated in decision making process and conflicts resolution. This is because it is instructive of the probable consequences of the actions of the present generation to the future ones. Environmental ethicists should therefore be part of the policy formation. In a nutshell, environmental ethics is instructive of the rightness or wrongness of our actions in respect to the environment.

2.6 Chapter Conclusion

It is a fact that science and technology has failed to reverse most of the current environmental problems despite the hopes that they would do so. As a result, it is inevitable that ethical questions have to be raised on the basis of a philosophical reflection upon science and technology.

Consequently, the focus has shifted from science and technology to inquiries of new avenues that could assist to salvage the situation. That is the reason why we are

focusing on environmental ethics as the best way of changing the cause of the problem, which we believe is man's attitude towards the environment.

The present generation's attitude towards the environment is hinged on the belief that it has to live comfortably, particularly economically. The present generation pursuits are unlimited and unrestricted. It therefore disregards the needs of those who may exist in future and this becomes the main driving force of further environmental deterioration. This attitude is based on the grounds of non-existence of the other generations. It is for this reason we want to probe who the future generations are.

CHAPTER THREE

FUTURE GENERATIONS

3.1 Introduction

In our last chapter, we dwelt on how the actions of the present generation have endangered the lives of the future generations. One concern of this chapter is to define what we exactly mean by the term future generations.

It is only after doing this that we can define what the rights (if at all they are there of such future generations could be. We have framed this statement in a conditional sense because of some moral exhortations by some scholars. Examples of such moral exhortations include an argument by Prof. R.T. De George in Sterba (ed.) (1991) when he questions whether we owe the future anything, or when Kristin Schrader - Frechette (1993) argues strongly on why we must provide for the future and even make sure that it is habitable.

In the second part of this chapter, we will discuss the concept of rights and more specifically, the rights of the future generations. While some scholars like De George (ibid), Martin Golding in **Monist 56** (1972) and Clayton Hubin in **Philosophy and Public Affairs 6** (1976) argue that non-existent people do not have rights, there are others who totally disagree. Annette Baler in Partridge (ed.) (1978), and Michael Bayles in **Morality and Population Policy** (1980) think that the fact that future generations are non-existent should not be a ground of denying them their rights.

The last part will be an attempt to discuss the basis of the rights of the future generations. We will analyse the time span of the future generations. It is on the basis of

this time frame that we shall try to project on the basis of our moral responsibility to the future generations.

3.2 Temporal Horizons as a Basis of Conceptualising Future Generations

Temporal horizons is a phrase used to mean the problem of fixing a time frame for our moral responsibility. The choice of temporal horizons is central to the task of fixing rates of the use of both renewable and non-renewable resources. It is also important in specifying the boundaries to which our responsibility should be extended.

Temporal horizons have three dimensions. According to John S. Mbiti (1 969) we have the past, the present and the future. We look at events which have been happening over years and we call that the past. On the other hand, we focus on things to come (which may happen or not) and we assign them a future time.

Most people do not have problems with the concept of the past. We have so much that has been documented about the past such that we can use such materials for reference. The past happenings can only be used as a guide to what we intend to do now or in the future. The past is beyond our control meaning that we cannot alter it. We cannot "cry over spilt milk" as the old English proverb says.

We are concerned with the present and the future time since these two dimensions of time are within our control. The present time, however, is the briefest of moments. It denotes what is actually happening now. Edmund Husserl (1966) proposed as early as in 1887 that the present time should have extension. He argued that the present should include not only the present moment but also memories of the immediate past. This is because the present is somehow tied with the immediate past. Events, for example, which

took place five years ago should be part of the present. Husserl (ibid) referred to this immediate past as retention. However, he pointed out that the present should also include anticipations of the immediate future. This is what he called protention. The Husserlian assertion is, therefore, that the present is contained in the near past and the near future too. This is because there is an overlap between the events that took place sometimes in the near past and which the present generation can use as guidelines to face some of the future challenges.

Much as we would like to appreciate the views of Husserl, there is one issue that we must not overlook. Unlike the near past that has already been lived, the future, be it the future of the next twenty minutes or the future of one hundred years from now, has not been lived. The future time is the new time that has not come to pass. We do not have memories of the future since we have not lived it. We only have anticipations about it. We hope that the sun will rise in the East and set in the West tomorrow. We anticipate to get industrialised by the year 2020. We hope to become responsible parents in the next few years. However, unlike the past, where we can argue with certainty that an event A or B happened, through evidence offered by historical data, events of the future are only probable. They have not occurred and this means that they may occur or even not occur. Their occurrence has a degree of probability.

The temporal horizons become a vexing problem when the present generation considers having a sense of moral responsibility to the unseen and only probable future generations. They start questioning who these future generations are. Some people do not therefore see any reason why they should preserve the environment for a future that may

never be. It is for this reason that an important question arises as to whether the present generation should assume any responsibility now for the sake of future generations.

3.3 The Futurity Problem

It may be necessary to first grapple with the problem of conceptualising the future generations. However, the task is hard in the sense that since these future generations do not currently exist, we do not have exact features through which we can define them.

We do not know whether the future generations will share the same features we have. We do not know whether (if at one time they will exist) they will be endowed with super-human abilities through which they may survive without the basic necessities of life. After all, with the current rates of technological advancement, they may have improvised ways of living in space!

However, we have to make some assumptions here. Throughout history, we have learnt that with every succeeding generation, human beings have depended on food, clean water and air for survival. Even before the discovery of fire and at the state of savagery, man depended on raw food such as meat, roots and herbs. Food has all along been a fundamental prerequisite for human survival.

The story is the same in the contemporary world. Where there is a scarcity of food, water and other basic necessities of human survival, the situation has always been desperate. We only need to read newspapers or watch televisions to see the misery the world over. In 1984, for example, world famous musicians held a live concert in aid of the hunger-stricken people of Ethiopia. This was after seeing the suffering the people were undergoing. The war-ravaged Southern Sudan is another sad story. People die in

thousands every year because of an insensitive war which diplomacy has failed to quell. The people can hardly grow enough food to sustain their families. Their help comes from organisations like the Red Cross, CARE International and the United Nations.

The above is an illustration of how people cannot live without the basic necessities of life. It also explains how some people feel a sense of moral responsibility to aid desperately needy strangers, even if it means at a substantial cost to themselves. This is in strict opposition to Garret Hardin's **Lifeboat Ethics** in Sterba (ed.) (1991) when he suggests that concentrating on the suffering of others may be detrimental to the well-being of some rich nations. From his analogy of the life boat, Hardin argues that the developing nations, due to their uncontrolled population policies and mismanagement of their resources are increasing the environmental load. Hardin therefore proposes that the developed world should not be dragged into problems afflicting the poor nations in the sense that by offering their help, the rich nations will only be increasing the dependency of the developing nations. The poor nations should therefore concentrate first on putting their houses in order before they start asking for help from the developed nations.

While we may agree with Hardin's proposal, there is one area we differ. His argument may be quite convincing. If the third world countries were to practically apply his views, the problem of dependence bedevilling them would at least be minimised. If the population growth rates are reduced to a minimum for example, there would be a little pressure on food. However, our worry is that the authentic touchstone of morality is not survival but concern for the poor. The rich nations are currently self-sufficient. They have more than they need. However, from an ethical point of view, it is morally wrong for them to 'play God' by deciding who will live and who should die. Schrader-Frechette

(ed.) (1993:41) points out that this ethic "sounds suspiciously like the view criticised long ago by Plato, who said that, contrary to Gorgias, 'might did not make right'."

Thus, while Hardin's assumptions may be true from one perspective, they are flawed on the other. They may be true in as far as the population policies of most of the developing countries are concerned. However, they are questionable in the global use of resources. Wealthy nations are using a disproportionate share of the planet's resources and their depletion of non-renewable resources is alarming. This jeorpadises the lives of the people in poor countries who are disadvantaged in resources endowment. It may cause harm to some members of the future generations.

The underlying principle is that what is paramount is human survival which can only be catered for if we can allow the flourishing of future generations. However, it appears that our current responsibility is fixed on the people now alive. This is because we know them and we know what they need. They are our contemporaries and we therefore share in their sufferings.

Future generations do not currently exist but they may be real sometimes to come. They are non-existent but that does not mean that they are not probable. The question is whether a non-existent but probable entity can be said to have rights.

3.4 Rights of the Future Generations:

3.4.1 Rights in General

The question of what rights are and where they come from are two closely related questions. There are many ways of answering them. One way would be to simply point out to the statements made in constitutions and laws, declarations, treaties and conventions.

Human beings have civil and political rights such as rights to life, liberty, speech, association, political thought, fair trial and very many others. They also have humanitarian rights. An example is the rights of prisoners of war. If in an armed conflict some soldiers are held captive, arid in event that they are sick or wounded, they have a right to treatment. Human beings likewise have economic, social and cultural rights such as rights to adequate food and water, health care, education and a clean environment.

Rights can be categorised to suit various categories of people. We have rights of workers, minority groups, indigenous people, and people with disability. There is a special aspect in which every member of these groups identifies with. It may be homelessness for the refugees or cultural heritage for the indigenous people. It may be fear of exploitation for workers or physical disability for the handicapped.

The issue of rights may be approached as a part of what makes us human. Thus, we talk of human rights. By this, we aim at achieving the goal of human dignity, which is the preserve of every human being. Consequently, human rights define one essential element of their attachment to being human.

From the foregoing, it is a fact that human rights, or rights in general, are contingent upon the rights holder being a human being. This assertion, however, can be confronted by a multitude of problems. The boundaries of the definition of a human being are not clear. A foetus for example has been an issue of intense debate as to whether it is a human being or not. While anti-abortionists ascribe the same features of a human being to a foetus, pro-abortionists argue that it is just but a conglomeration of cells, which women have a right to discard. The dead people on the other hand were once living and it is a problem whether they should be accorded a right to privacy. The problem here is whether since they were once right holders (by the virtue of having been alive once), the same rights should be extended to them upon their death. Likewise, the future generations, by the fact that they will probably exist, requires us to delve into their rights issue.

3.4.2 Rights of the Future Generation

If it is on the basis of rights that we should have a sense of moral responsibility towards future generations, and granted that rights holders, as we have already observed, have to be necessarily existent, then the future generations do not qualify for our moral responsibility.

Richard T. De George in Sterba (ed.) (1988) argues that since future generations do not currently exist, we do not owe them anything. This is a view shared by Martin Golding in The Monist 56 No. 1 (1972) when he points out that we can have a sense of responsibility to those we can give content to the notion of the good for them. In principle we can have a moral responsibility to our neighbours, friends and contemporaries since

we know what is good for them. We know the rights of those currently hiving whether they are our brothers or neighbours. Golding's position is that in the case of the future generations, particularly the remote ones, the present generation does not have an idea of what they will need.

The arguments of De George and Golding are confined to the present generation. At least, unlike Garret Hardin, whose arguments we have presented elsewhere, they are concerned with the well -being of all those who are presently living. Their arguments point out to extending responsibility to all humankind. However, they deny an extension of such responsibility to the future generations simply because they are non-existent, contingent and unidentifiable. The question is whether this contingency and non-existence should be the only basis of our responsibility to the future generations.

The current state of the environment is deplorable to say the least. It is hardly meeting the demands of the present generation. If it were, we would not be hearing cases of some people dying because of hunger. However, it can adequately meet the demands of the present generation if it is well nurtured for. What is seemingly lacking is the moral will to share the global resources. Apparently, self-interest has taken precedence over ethical concern. This is why, perhaps more than ever before, we need to adopt environmental ethics.

The plight of the future generations rests squarely with the present generation. It is an issue within the scope of our present environmental ethics to try to account for and explain the recalcitrant intuition that future generations of people will have some claim on the present generation to take responsibility for the kind of the world that they will inherit. A person unknown to us today may exist at a time in future. He might be

dissatisfied with the kind of the world he would have inherited from us. The question here is whether this person may have any claims over the present generation for having infringed his rights to a liveable environment with the same amenities which we enjoy today.

We have already pointed out that it is a difficult task to define the concept of the future generations. This is simply because they do not have some unique features the way we would define presently living people. It may look contradictory then to talk of a person who is unknown to us today. The point is that despite his non-existence, he is probable. A probable entity may exist or not. But supposing that it exists?

The argument we are driving at here is purely probabilistic. It is the degree of probability of such existence which is of our paramount moral concern. The present generation has a real and, in fact, an important desire to perpetuate itself. It is for this reason that the present generation ought not to be apathetic about the welfare of the future generations.

On the basis of such probability, it is the case that the present generation is gambling with the plight of the future generations. Let us take the example of an unidentifiable person P who comes into existence sometimes in the future and is dissatisfied with the state of the world. Assuming that then we would have nearly exhausted the fossil fuels, distracted the forests and even tampered with the ozone layer. P will be living in a world without sufficient natural resources and will be living in a world without clean water, clean air and an unproductive land. This will mean that his needs will not be adequately and efficiently met. This would be a gross violation to the rights of P. Like a currently living human being, P's rights to a habitable and healthy

planet would have been denied by generations living before him of which we are a part. That is one side of our assumption. We can be said to be morally responsible for the world P would have inherited.

However, we may choose to make sacrifices today with the hope that the needs of P will be the same as ours. This moral assumption may turn out to be true or not. As we have earlier pointed out, the needs of the future generations may turn out to be different from the ones the present generation have depending on the outcomes, for example, of science and technology. They may have discovered alternatives to the non-renewable resources and as it may turn out, our sacrifices would not have been worth the effort in the first place. Nevertheless, we would have handed to them an environment which, given that we would not be there to participate, would be conducive to human well-being. This is on the assumption that future generations would still need clean air, water and the other resources which the present generation is jeorpadising. We would have done the right thing and this would be our legacy to the future generations.

3.4.3 Substantiating the Rights of the Future Generations

We have already dwelt with the argument of Richard T. De George. His argument in Sterba (ibid) is that if an entity P does not currently exist, P is not a bearer of anything. Consequently, P cannot have rights. By the virtue of being non-existent, P cannot be a recipient of our moral responsibility. The bottom line of De George's argument is that we cannot have co-relative duties to non-existent entities. Let us see if De George is correct.

Schrader-Frechette (ed.) (1993) argues that scholars concerned with the plight oh the future generations typically use a number of arguments to present their case. For the present purpose, we will look at three such arguments.

The first argument is the claim that we have a duty not to jeopardise the welfare of contingent or unidentifiable persons in the present. If we may cite the case of a foetus, it has been an issue of debate whether it is a person or not. It is not within our domain to delve deeply into the issue here.

However, there are scholars who argue that a foetus is a potential human being, yet there are others who think that it is just a composition of cells which, if need be, can be discarded from the body at will. While the former think that a foetus should be a subject of our concern, the latter argue that the ultimate right rests with the mother who hosts the foetus.

The point we want to make here is that if this foetus is given time, its potentiality will be actualised in nine months time and it will be a living person. We cannot overlook the condition we have put that it has to be given time. Likewise, the contingency of future generations should not be a ground of why we should not take care of the environment for their sake. If we exploit the environment wisely to meet our present demands while leaving enough resources for the unidentifiable future generations, we will be increasing the prospects of their probable well-being. Mary Warren in Sikora and Barry (eds.) (1978) points out that while future generations are non-existent, they are nevertheless potential. By a potential person, Warren (ibid: 14) means an "entity which is not now a person but which is capable of developing into a person, given certain biologically and/or technologically possible conditions."

In our view, what Warren means is that the potentiality of the future generations entirely depends on the present generation. In the reproductive capacities of the currently living generation, there exist adequate conditions for the thriving of future people. What is needed is the avoidance of unwise environmental exploitation which has led to the various catastrophes we are experiencing.

Thus, the potentiality of the future generations is real if the present generation is ready to recognise that they will need clean water, clean air and all other basic necessities of life. That is why the present generation needs to know that it is unwise to pollute the environment with toxic wastes, it is unwise to clear forests without replacing them, and so on. Future generations therefore have rights to all these needs.

The second argument that Schrader-Frechette (ibid) offers has a historical bearing. When we reflect on some of our past actions, they have taught us how lethal some of them can be. Many years after clearing forests, the aftermath is being felt today. The clearance may have risen out of necessity. It could have been as a result of demands of an increasing population. However, the past generations did not seek alternatives of meeting such demands and they went ahead to clear even more tracts of land. Their demands were met but the then future generations (the present generation) are now paying the price of their fore-fathers negligence. Some repercussions of what could have been some one hundred years ago are being felt today through prolonged droughts and famines.

If the above argument is true, then the argument by Husserl (ibid) is also correct. There is an overlap in the time frame such that we can project on the future now simply by looking at events which have already passed. Our rights to a productive land may have

been abused a century ago and today, we may say that the irresponsible behaviour of our fore-fathers is squarely to blame. In the same vein, a generation a hundred or so years from now may blame us for exhausting some non-renewable resources that they may desperately need for their well-being. We might not be there to witness such claims being made upon us but that does not alter the fact that we will still be held morally responsible for the state of the world these potential people will be living in.

The last argument put across by Schrader-Frechette (ibid) is the rationality issue. The rationality of man has been glorified as the distinctive feature between human beings and all other creatures. Philosophers like Rene Descartes, Leibniz and Immanuel Kant have dwelt at length on the role of rationality. Rationality helps humanity to seek answers to puzzling problems. Rationality helps us to forecast, to speculate and even to conjecture about the future.

If the above assertions are correct, the present generation has a powerful tool at its disposal through which they can probe into the future. The mistakes of the past can only be rectified through a sound clarification of the future goals. This calls for a careful evaluation of future policy alternatives. When this has been done, a sense of moral obligation to those who will be victims of our folly or beneficiaries of our well-reasoned concern would have been cultivated. In the words of Walter Wagner in Schrader-Frechette (1993:66), the "modern man must be a moral man, toward the future as well as the present, because the practical necessity and self-interest of each make it desirable that we cultivate compassion and morality in us all."

However, the above notwithstanding, the present generation has chosen to be ignorant to some of the needs of the future generations. We argue that since we do not

know the interests of a person P who, given the necessary conditions of life, may be born some two hundred years from now, we should not make sacrifices for him. This is based on the assumption that the future generations may have improvised some other methods of survival. We have already countered that argument by arguing that if today we blame the generations that preceded us for some of the problems that we encounter, then there is no reason to believe that the future generations will not make similar claims upon us. If they were to exist just to find an intolerable environment, they will have the right to question what led to that state of affairs. Similarly, we do it today though our predecessors do not exist to answer such questions.

We have argued a case for the future generations and pointed out that they have rights. If at one time they will exist, they will have a right to a liveable environment. We have made an assumption that in the long history of the existence of human beings, they were not known to exist without water, food and the other basic necessities of life. Since the industrial revolution in Europe, heavy machinery has been innovated and thanks to these industries, many pressing human needs have been met. Oil drills have culminated in global supply of oil products. Mechanisation of farming has led to even better harvests and so on. However, the same innovations have been detrimental to human beings. H. F. Kraybill in Schrader-Frechette (1993:273-286) points out that pesticide toxicity has a potential for cancer. Schrader-Frechette (ibid: 281) argues that while we want to protect our crops from pest-induced diseases, we are also accepting the risk of chemically induced cancer. The moral question is whether the risk is morally desirable if it causes no harm to the present generation. Some may argue that the risk is worth it. However, it is our view that while no harm may prevail to the members of the present generation,

pesticide toxicity may adversely affect the well being of the future generations. The toxicity may harm them through its cumulative genetic effects as scientists point out. The dilemma is that if the pesticides are not used, the right of the present generation to food may be jeopardised. If, on the other hand, the pesticides are used, the rights of the future generations to an intact genetic endowment may be at stake. This may explain why we should seek alternatives which do not impair the rights of either generation.

There is a problem that we encounter in the face of that dilemma. At least a part of the present generation has to survive if at all there are to be future generations. By implication, this translates to that the needs/wants of the present generation have to be met first. As we have already stated, self-interest demands the present persons to cater for their welfare first. This is right if the present generation can distinguish between reckless and careful use of resources. However, it may be the case that by meeting their demands, they may also be working for the needs of their probable successors. If this is the case then a trans-generational community might be possible.

3.5 The Trans-Generational Community

The concept of community, at least in the conservative sense, is retrospective in the continuance of previous generations. However, Avner Shalit (1997) argues that the concept can also be applied in respect to human survival. In what he sees as trans-generational, he points out that the concept of community can be applied in the future sense. By trans-generational, Shalit, we believe, means cutting across generations.

Shalit (ibid) points out that in as much as we would like to embrace the communitarian relationships of the present and the future generations, there is a

contradiction. The current and the future generations are not positioned in such a way that they can reciprocate with each other. This is because while the present generation is currently living, the future generations are not.

However, in some sense, the young members of the present generation are the near future generations particularly if they are compared to the old members. We have already stated the rights of the future generations. As a consequence, if we really appreciate their probable, and in some cases their actual, existence, then we should consider them in our actions today. Shalit is of the idea that we are aware of the damages that we are causing to the environment. This is a statement of fact. Policy makers know very well that deforestation will eventually cause soil erosion, contaminated water is detrimental to marine life and so on. The problem is that our short term interests take precedence over the long term ones. We choose to pursue and reap the highest economic benefits at the shortest time possible. This entirely ignores the interests of the future generations.

Shalit backs up this proposition by arguing that posterity is entrenched in the historical roots of customs. In order to understand the concept of trans-generational community, we ought to understand its dynamics, its culture as well as its moral codes.

Logically, extending cultural interactions into the future implies extending the same to the past. If we take an example of the ancient pyramids in Egypt, we will find that they have existed for a generation after another. They have existed for hundreds of years. They have been trans-generational. The present generation can choose to act to save them through their destructive impulses, to destroy them. If they are preserved, future generations may appreciate and even learn from them. If they were destroyed, the

right of the future generations to aesthetic gratification from the pyramids would be violated. That may not be a moral issue. However, it points out a causal link between the past, the present and the future. If such dimensions are extended to morality in a trans-generational community, then morality can be affirmed in the sense that the present generation can apply some moral codes which were in place some generations ago to forecast on the probable consequences of their actions posterity.

Our argument may be questionable. Some people may ask whether we are advocating for reciprocity as a basis of affirming rights of the future generations. The problem is that the only real generation is the present generation since it exists in space and time. Yet, we have pointed out that there seems to be an overlap of the present and future generations. Even Shalit (ibid) seems to argue that reciprocity is not possible. Our view is that if trans-generational community is possible, so is reciprocity. An affirmation of such a community necessarily points out to some degree of reciprocity.

A trans-generational community cuts across generations. We do not have control over the past since it is gone. If we were to take the two statements as our premises, the logical conclusion will be that we are therefore not in a position to exchange with the past. It may be true. However, we can refer to the Husserlian assertion (ibid) that points out that the past time overlaps with the present time. Edmund Husserl called this the 'retention'. We do not necessarily have to exchange verbally with people to make an action right. If an action was moral and acted for the well being of the environment some two centuries ago, it is right even today. We do not have a reason to believe that the same action will not he right tomorrow.

The future, as we have earlier pointed out is probable. It has potency and it may be actualised. It would not be a contradiction to talk of a likely future. However, the mere fact that it has not been lived does not mean that we cannot anticipate it. A trans-generational community can make sense when the present generation uses the moral codes of past generations to assess a present situation. On the basis of the rightness or the wrongness of these moral edicts, then the present generation can apply them to suit the demands of the future generations.

3.6 The Problem of Priorities: Present Generation Versus Future Generations

We have already argued out a case for the rights of the future generations. We have also pointed out that the present generation has rights too. However, there are at least two issues which may crop up if we affirm that the rights of the present and the future generations are equal. First, it is not in doubt that it is impossible to calculate, let alone meet, the interests of all members of the future generations. Secondly, we may concentrate entirely on the interests of the future generations and the consequence to this will be diminishing the rights of the existing persons.

We are suggesting that the present generation should make sacrifices on behalf of the posterity. One area of concern is our population policy. The high population growth rate, particularly in the third world countries, has been blamed for the current environmental crises. Due to the high population growth rates, more pressure is put on land resources like forests for firewood and more room for cultivation. Industrial growth has to keep pace with the increasing population to meet the demands of the people. This

results to pollution of the air as well as the water sources from the effluents discharged from these manufacturing concerns.

The clarion call to the developing nations is to limit the number of their offsprings. Garret Hardin's (ibid) 'lifeboat ethics' proposes that if these nations were to do this, then the pressure on the environment would be lighter. Schrader-Frechette (ibid) argues that reduction in population growth rates may provide for equity between generations and for more equal opportunity to use the resources of the earth.

However, the problem that arises from the above is the moral issue whether such a policy might also not violate the rights to life of members of the present generation. Martin Golding (ibid: 78) observes that, "we shall have to be highly scrupulous in regard to anything we do for any future generations that could adversely affect the rights of an intervening generation. Anything else would be 'gambling in futures'." This may be true as far as the poor and the socially disenfranchised are concerned. Their only hope for upkeep in old age rest on their children who they think will care for their long term interests. It would be morally wrong to restrict such people from producing as many children as they wish. This would be a gross violation of their right.

If the arguments by Garret Hardin are correct, it will also be morally wrong to produce more children. This is because if the resources of the earth reduces with every increase in population, it will mean that the children born will be subjected to further misery which may even be more severe than the ones experienced by their parents. The present generation, particularly in developing countries, chooses to ignore such observations. Anthropocentrism demands that we put our interests first and that is why

the interests of the natural objects are not our priority. This self-interest pursuit, or what we may call egocentrism, becomes suicidal in that it later works against us.

There is no simple solution to the problem of conflicts between the interests of the present and the future generations. However, there are several considerations that shed some light to the situation. There are scholars who have argued that the equity, and hence the recognition of the rights, of both the present and future generations, ought to be pursued as a goal.

John Rawls (1971) advocates that there should be justice between generations. Generations are bound by a social contract. Rawls argues that the hypothetical parties to the social contract are not to know to which generation they belong. Members of succeeding generations should establish a just saving principle which will benefit the generation that follows. This can only be done on the basis of knowledge of the conditions the generation might actually face once the veil of ignorance has been lifted. Golding (ibid:91) argues that a moral community may be initiated either by "an explicit contract between its members" or by "a social arrangement in which each member derives benefits from the efforts of other members."

Rawls and Golding introduce the idea of a social contract as an ethical framework within which the existence of the rights of the future generations can be substantiated. Rawls advocates a social contract based on the golden rule, that is, doing to others what we would like to be done to ourselves. Golding, on the other hand, argues that we can have obligations to beings whose needs we are ready to recognise as entitlements to receive good from us. Consequently, the notion of an obligation to the very remote future

generations makes little sense to him. This, according to Golding, is because we do not clearly know what the interests of the future generations will be.

It may be true, as Golding argues, that it is impossible to enter into an explicit and legal bargain with future persons since they do not currently exist. Secondly, a social contract is a mutual exchange. However, in the Rawlsian social contract between generations, only the present generation can benefit the future generations and not the vice versa. Golding therefore concludes that since the future generations are not presently existing, they cannot he said to have rights based on a social contract arrangement. There are other authors who maintain that even though future people do not have rights based on an explicit contract, they might still have equal rights to ours. Joel Feinberg in Mappes and Zembaty (eds.) (1977) argues his case that future generations can be said to have rights, just as we do, if they share the same interests or social ideal as the present generation. We concur with his observation by our earlier argument, which we argued from a historical point of view. We pointed out that there is no reason to believe that the future generations will not share the interests that we already have like the right to a life in a habitable environment.

This notwithstanding, we cannot rule out the possibility of a social contract between the present and the future generations. As Walter Wagner (ibid) observes, active concern for the interests of our remote descendants increases our empathy and concern towards them. If we recognise their rights, we obtain in return a greater degree of happiness and self-actualisation. Indirectly, we may be said to have been bound by a contract, which, while benefiting the future generations, benefits us, too.

generations makes little sense to him. This, according to Golding, is because we do not clearly know what the interests of the future generations will be.

It may be true, as Golding argues, that it is impossible to enter into an explicit and legal bargain with future persons since they do not currently exist. Secondly, a social contract is a mutual exchange. However, in the Rawlsian social contract between generations, only the present generation can benefit the future generations and not the vice versa. Golding therefore concludes that since the future generations are not presently existing, they cannot he said to have rights based on a social contract arrangement. There are other authors who maintain that even though future people do not have rights based on an explicit contract, they might still have equal rights to ours. Joel Feinberg in Mappes and Zembaty (eds.) (1977) argues his case that future generations can be said to have rights, just as we do, if they share the same interests or social ideal as the present generation. We concur with his observation by our earlier argument, which we argued from a historical point of view. We pointed out that there is no reason to believe that the future generations will not share the interests that we already have like the right to a life in a habitable environment.

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Alternatively, we can base the argument from the perspective of a hierarchical social contract where one generation benefits another with the hope that this generation will follow suit in benefiting yet another one and so on. As Peter Faulkner in **Frontiers, 42. No.4** (1978:35) puts it, the present generation "owes to posterity concern of the same quality and degree that (our ancestors) . . .devoted to all generations following theirs and that made our present happiness possible."

The above argument has backing from the Japanese concept of *on* which closely translates to obligation as cited in Daniel Callahan's article in the **American Ecclesiastical Review, 164, No. 4 (April, 1971).** The future persons in our understanding may be thought as beneficiaries of past generations to whom we are indebted for the type of environment we inherited from them. We are therefore bound by a social contract to recognise the rights of future people by doing to them what our ancestors did for us.

3.7 Chapter conclusion

We have dwelt in length with the issue of rights of the future generations. We have taken into consideration the views that various scholars have used to establish whether the future generations have rights or not.

We have sided with the arguments of the scholars holding the view that future generations have rights. However, this has not been done blindly but with arguments and counter-arguments for and against any of the two positions. While there are issues that we have agree with scholars like R. T. George and Martin Golding who think that we do

not have obligations to future generations, there are areas where we differ with others like Avner de Shalit with whom we end up affirming rights to future generations.

If protecting the rights of the future generations to the goods of the earth is an authentic way to safeguard our well-being, we should rise up and assume moral obligations to the future generations.

CHAPTER FOUR

OBLIGATIONS TO FUTURE GENERATIONS

4.1 Introduction

In the last chapter, we clarified the issue of what we mean by the concept of future generations. We did this from the perspective of the currently living generations, in view of the supposed non-existence and contingency of future generations.

We showed what the concept of future generations entails in general. From the foregoing, we argued the case for future generations as legitimate right-holders and as such, we concluded that they are legitimate subjects of our moral concern.

In this chapter, our concern is on the obligations that the present generation owes the future generations. In the first part of this chapter, we will generally look at the issue of obligations and its moral implications. Many scholars have diverse views as to what extent the moral obligations of the presently living people should be extended. Whereas some scholars like Martin Golding in **Monist 56, No. 1**, (1972) argue that our sense of obligation should be extended to the very near generations, others like Robert Scott in Sikora and Barry (1978) argue that we have moral obligations even to our remote successors. However, there are others like Thomas Schwartz in Sikora and Barry (ibid.) who totally disagree with the assertion that we have obligations to the future generations. Their argument is that we only have obligations to the present generation.

Having looked at the three views on the extent of our obligations, we will then look at the moral basis of these obligations. There are diverse views on the basis of our

moral obligations to the future generations. Utilitarianists, following Jeremy Bentham and John Stuart Mill, argue that we have an obligation to maximise happiness for the greatest number of people. Yet, other scholars argue that the basis of our obligations is purely contractarian. The present generation is therefore bound by a contract with the future generations. Lawrence C. Becker (1986), however, is one of the other scholars who argue that the basis of our responsibility/obligations is based on a theory of reciprocity; that the past generations made sacrifices for us and that we should reciprocate their generosity by sacrificing for the future generations.

The scope of our thesis is restricted to our environmental obligations. Consequently, the last part of this chapter will be an effort to show in the face of a probable environmental crisis, what areas of our environment we should be concerned with for the sake of future generations.

4.2 Obligations in General

4.2.1 Obligations and Rights

Obligations and right are the two sides of the same coin. The flip side of a right has to be an obligation, for without corresponding obligations, rights would be nothing but empty rhetoric.

Generally, when a right-holder claims aright or seeks to enforce one, an obligation is immediately placed on somebody, group or an institution to act accordingly. This implies that a duty is placed on somebody to uphold the right or not to infringe upon that same right. To possess a right therefore means that one becomes a beneficiary of another person's obligation.

The precise content of an obligation, however, varies according to the content of the right. A father has a direct obligation to educate his son, feed and clothe him with the expectations that the son will also be under an obligation to cater for him at old age. A teacher has an obligation to impart the best knowledge to his students so as to prepare a sound resource base that will be instrumental in future nation building. The dimensions of an obligation, in other words, are therefore determined by the demands of the right. On the face of it, the notion of obligations and rights are intertwined. The right to be heard requires another to provide the opportunity for you to speak; the right to be left alone requires another not to interfere.

However, beneath this general level, the picture of how obligations are met in practice is a little more complex. We may ask ourselves who is exactly placed under an obligation by any particular right. Two such levels of obligation can be identified. One such level is that our parents, families, organisations and so on are all obliged to respect our rights and not to infringe upon them. Trade unions, for example, are obliged to champion the rights of workers while parents have an obligation to the well being of their children.

The second level demands that the state provides the means by which the rights of her citizens are protected from infringement by other persons or by the state itself. The state therefore has an obligation to establish and maintain a legal system for the protection of rights and the enforcement of responsibilities.

From the foregoing, it is imperative that obligations and rights should be given equal importance since both of them are intertwined. However, we readily recognise rights but hardly accept an obligation to be the custodians of these rights. On the basis of

this reasoning, recognition of the rights of the future generations does not necessarily imply an obligation to them.

4.2.2 The Three Views

Scholars have diverse views on to what extent our obligations should be extended to the future generations. On one hand, there are those who argue that our sense of obligations should strictly be restricted to the present generation. On the other hand, there are those who feel that our sense of responsibility should be extended to the future generations. However, the views of these scholars are further divided into those who argue for obligations to the very near generations and those who argue for obligations even to the remote generations.

Richard T. De George in Sterba (ed.) (1988) argues that since we do not know much about the demands of the future, we do not owe it anything. His argument is that the concept of obligation entails that the people we are obligated to should currently exist. Since the future generations do not currently exist, De George holds that they cannot be subject or bearer of anything. It is on the basis of this argument that he concludes that we cannot have any correlative duties to non-existent entities and in this case the future generations.

We have already argued that the future generations have rights despite their spatio-temporal absence. We have however assumed, and we believe reasonably that the coming into existence of future generations is a certainty given that we can make all conditions for their existence conducive. Why then should we suppose that the future generations are not bearers of rights now?

The argument by De George cannot hold ground on the fact that his distinction between the rights of the future generations and the obligations those rights place on us implies an unjustified preference of temporal existence (the not yet existing future generations) over spatial existence (the present generation). This assertion almost advocates and encourages the present generation to exploit the environment carelessly.

Thomas Schwartz in Sikora and Barry (1978) holds not merely that it is not wrong to prevent the existence of the future generations. He further argues that it is even permissible to use or exploit the environment in such a way that there would be miserable future generations if at one time they will exist. His central premise is that to do something morally wrong, some particular person must be less well of than he would have been otherwise. However, following Derek Parfit, Schwartz argues that if the present generation depletes the environmental resources today, the unforeseen future generations may not be aware of the good which would have been denied to them and so they would not complain.

While defending this position, Schwartz observes that the increased population growth rates have been blamed for inadequate supply of natural resources, unhealthy natural environment and many other ills. However, he points out that whatever we may owe the present generation, we have no obligation to extend it into the future as a gesture of our moral concern to our descendants.

In our view, Schwartz's argument leads to a contradiction. He is primarily concerned with the well being of the currently living generation. He overlooks the very essential point that if the population growth goes unchecked, the end result would be a drop in the quality of life of the present generation.

In China for example, the high birth rates were viewed as a threat to per capita output growth, which in itself is a threat to the environment. Consequently, there was a need to reduce the population growth rates. Scotese and Wang (1995) note that in 1970, the Government of China came up with a policy suggesting two children for urban families and three for rural ones. This policy was later limited to one child per household in 1979.

There are lessons that can be learnt from China's population policy. One such lesson is that population growth rates should be compatible with the available resources. Unplanned increases in family sizes will effectively lower the per capita income and output and this will mean more pressure on the meagre environmental resources to support the human well being.

Schwartz would probably argue that programmes such as the China's population policy are flawed in that they inhibit people from practising their rights. However, the existence of children whom the available resources cannot support may also be a violation of the rights of present generation because it will be required to make some more sacrifices to food, clothe and educate such children.

Additionally, we should note that an unprecedented increase in population growth rates jeorpadises the well being of a people particularly if the resources they depend on do not, increase in a way to support such increases. However, if the world resources are well catered for today, there are enough resources to sustain the current global population which stands at six billion people.

Mahatma Gandhi blames the current environmental problems on greed. Even the results of China's population policy suggest that population control is not sufficient to

promote economic development and sustainability if we do not make a permanent shift from what we prefer as individuals. If the present generation can possibly embrace ecocentrism, we can replace greed with love and care for the environment and this may have some far-reaching consequences regarding responsibilities to future generations.

This may be what Clayton Hubin had in mind in **Philosophy and Public Affairs** (1976). Hubin observes that from one perspective, the notion of obligations to the future generations makes very little sense. However he digresses from the views of De George and Thomas Schwartz by arguing that while we may strictly be said to have obligations to our contemporaries in the present generation, we may be bound by a social contract to conserve our resources so that future generations can have good lives. Consequently, Hubin concludes that we should choose to adopt some sort of a limited savings principle for the immediately succeeding generations as a condition of justice.

Like Hubin, Martin Golding (ibid) observes that obligations arise within moral communities among beings sharing a conception of a good life. To Golding, we know the conception of a good life for our brothers and sisters, our parents and our neighbours. These people need basic necessities such as food, shelter and clothing. Following this, we should feel a moral sense of obligation that they are well catered for. Although it is more often than not elusive, we can be said to have obligations to these people since we can readily recognise their claims on us.

Golding points out that the notion of an obligation to the near future generations is within our scope since their existence may overlap with that of the present generation. Our siblings may be there to share the resources with us. Since we know that our children will need a clean environment, we should on that basis be concerned about their

environmental well-being. Golding forecasts that it will be upon our children to cater for the environment for the sake of their children. It is probably on this perspective that he argues that obligations to remote future generations makes little sense since we have no clear conception of what the good for them will be.

While the arguments by the advocates of obligations to the near future generations like Hubin and Golding may be convincing, they seem to overlook, if not ignore, some basic but very necessary facts. We have pointed out that over thousands of years, generations have thrived through the same basic necessities that we enjoy today. No generation was known to exist without an adequate supply of food and water. In case of famines and droughts, deaths took their toll. In the same manner, it is quite probable that even the generations to come will need the same prerequisites. This may appear fallacious given that past and future conditions would be generations apart. Nevertheless, that very fact confirms the degree of probability. This notwithstanding, our moral obligation to the future generations is to produce something that will probably be good for them, given our best evidence of what is likely to be good for them.

Let us took for example at the oil resource issue. It is alarming that if more oil wells are not discovered in the next few years, the known oil resource base will be exhausted in the next two hundred years. The statistics may not be exact. Pessimists, however, feel that time is running out and it is just a matter of time before manufacturing concerns will start stalling. This would spell doom to the future generations who would go without manufactured goods.

However, optimists believe that due to the pressure on exhaustion of oil, we should start seeking alternatives now while at the same time cutting down on the use of

the oil products. Our sacrifices today may be instrumental to the well-being of future generations. This is where scholars like Golding think that we are failing. Why should we be concerned with what happens to the future generations if the available oil is enough for the present generation? We shall try to answer such questions by borrowing insights from what other scholars have to say about our obligations to posterity.

Michael D. Bayles in Morality and Population Policy (1980) observes that we should not render it substantially unlikely that future generations can indefinitely sustain a minimum quality of life. As he rightly observes, the present generation consists of self-interested people. Nevertheless, Bayles argues that the present generation has well-established values like freedom, equality, security and welfare. These values, coupled with moral principles, provide the basis for the arguments of our obligations to the future generations.

Annette Baier in Ernest Partridge (ed.) (1981) also advocates for obligations to the future generations. However, she explicitly connects obligations to future generations to further the obligations the past generations had on us. Baier disregards the notion of temporal horizons by arguing that the past, the present and the future generations are interdependent. She concludes that the concept of moral community is not restricted by time. It is cross-temporal.

From the foregoing, it is conclusive that the answers to the question of whether we are obliged to the future vary widely. Indeed, they range from nothing (for those who believe that we do not owe the future anything) to everything (for those arguing that our obligations should encompass not just the near future generations but even the remote ones). For the first view, there is the understanding that morality is based on a kind of

agreement between independent rational beings. When this is put together with the fact that future generations are physically absent, such an agreement is disqualified. The present and future generations are not capable of being parties to mutual agreements with each other and therefore, future generations are seen as outsiders to such agreements.

However, if we take a different view of morality, it is imperative, as it is to utilitarians that we ought to maximise human happiness. This does not matter with the spatio-temporal location of the human beings in question as we have already pointed out. In this case, we owe the future everything. This implies that if we make sacrifices today, we would have contributed positively to the well being of the future generations. The benefits we would have passed to the future generations would maximise their happiness. However, an uphold of this position may be prejudicial to the maximisation of happiness of the present generation.

It is our view that between these two extremes of owing future nothing and everything perhaps lies the correct view of our sense of moral obligation. It may be the case that we do owe the future something but not everything. However before we discuss what we owe the future generations with reference to our environment, we need to look at the moral basis of our obligations.

4.3 Theories of Moral Obligations

4.3.1 Utilitarianism and Future Generations

As an ethical theory, utilitarianism states that an action is good if it promotes most happiness or utility with the least pain. Utilitarianism was first given prominence by Jeremy Bentham and John Stuart Mill in the 19th Century. According to their account of

moral obligation, the basic standard of our actions is the principle of utility. The principle posits that our moral goal should be balancing the greatest possible good over bad in our actions.

For our purpose, the moral end of utilitarianism would be to maximise good for the human species. Its aims are to promote justice between generations, meaning that the present generation is under a moral obligation to act in such a way that will lead to the greatest amount of good for the greatest number of people. We have already said that the future generations are indefinite, implying that they may be more than the present living generations. We should aim at maximising the happiness of the future generations since from an utilitarian point of view, it is immaterial where or for whom happiness is produced. This requirement clearly extends to the future and helps explain our obligation to future persons.

When applied to the notion of obligation to the future generations, utilitarianism can be premised on the same principle that the best policy or action is the one that will most likely promote most over-generational happiness or utility, and cause the least over-generational pain. When utilitarianism is viewed from this perspective, it looks like a form of consequentialism. That is, the consequences of an act or a policy are seen as the reason for approving or disproving the said act or policy. A policy is therefore judged according to its consequences. As a result, it can be said to be good if it promotes the well being of the present generation in addition to how it may affect the future generations.

The appeal to utilitarianism in the context of the present and the future generations lies in two assumptions. While on one hand it considers the effects and consequences of an act which embodies future generations, it is also flexible in that it

permits the present generation to adapt to changing circumstances in the future in as long as we are keen on adhering to the principle of maximising happiness or utility.

Our original presumption concerning utilitarianism was that our actions should aim at maximising the utility of all affected persons and that it is possible to calculate or even measure personal utilities. By all affected persons, we imply the present as well as the future generations since we have already concluded that all of them are bearers of rights and hence subjects of obligations.

However, these presumptions encounter some difficulties with regard to justice between generations. The first problem is on whom the affected persons are while the second is whether the present generation has predictive tools of measuring future personal utilities. We have just stated that the affected people are our contemporaries in the present generation. On future personal utilities, we can convincingly argue that there is a flip side to this since we presently know the positive and negative consequences of our actions. On the basis of these outcomes, utility can be judged.

Schrader-Frechette (1993) observes that there are critics of utilitarianism who argue that as a theory, it fails to take account of long-term consequences of environmental actions. She notes that such critics argue that the major flaw of utilitarianism is rendering the good of the individual subservient to the good of all mankind. However, she concludes that utilitarians take adequate account of future effects by their admission that they aim at maximising the good for all.

Schrader- Frechette (ibid: 21) observes that "to the extent that environmental problems threaten future generations, they do so because persons have failed to follow the principle of utility." Thus utilitarianism raises some difficulties here. The theory does

not tell us how much of our environmental resources we should use and how much we should conserve. In this case, when the utilitarian approach is applied to an intergenerational context, both its total and average interpretations face difficulties. If we can take an example of the population policy, utilitarianism faces the difficulty of ascertaining whether we have obligations to conceive or to refrain from conceiving. Methodically, utilitarianism can resolve the dilemma with the view that depending on the predictable outcomes of conceiving or refraining from the same, one of the two options will maximise the happiness of future generations. However the problem lies on whether utilitarianism can presently predict the future consequences or actions of succeeding generations.

The other example may be pesticide injury trade-off which we have discussed elsewhere. If the problem of pesticide toxicity is indeed a moral one, then the sole basic standard of right and wrong action are the tenets of utilitarianism. The greatest possible balances of good over bad for mankind as a whole are posited as the moral goals of our actions. Thus when some scholars argue that the benefits of pesticide use outweigh considerations of equity between generations, they are arguing against affirmation of rights of the future generations. This is because, while maximising the happiness of the present generation through ensuring that their food resources are well protected, they may infringe on the probable happiness of the future generations who may be affected by the toxicity of the pesticides.

Following the difficulties we have just raised, practical application of utilitarianism is faced with further difficulties when confronted with issues of inter-generational distribution of resources. Utilitarians do not provide a clear answer to their

preferred criterion concerning the distribution of resources to both future and present generations. This may be because of an inability to predict future happenings. Thus, while utilitarianism may be very appealing methodically, it has flaws in its application.

4.3.2 Contractarian Theories of Justice

We discussed the social contract as a basis of affirming the rights of the future generations. We concluded that, however loosely, there are some contracts which bind us to the future generations and therefore, we should accord them rights.

The original aim of classical contractarian theorists was to legitimise political obligations and perhaps to show that their acceptance could be rationally justified. However, there has been a movement towards widening and broadening contractarian theories so as to encompass a body of distributive justice. Contractarian theorists argue that people entering a contract are rational self- interested persons on one hand, but who can also readily accept that it is rational for them to restrict their rights in some spheres so as to gain economic advantages or security, or in order to promote justice. Thus, those entering into contracts are bound to what they explicitly or tacitly agree upon.

In the spheres of environmental ethics, contractarian theorists cannot bring in non-human animals, plants, and so on to sign contracts. A problem arises as to whether contractarianism is ecological if it is hinged on the self-interest pursuit hence anthropocentric. The observation notwithstanding, we will dwell on what contractarianism can do with regard to the distributive justice between the present and the future generations.

Brennan (1988) examines two theories, that of Gauthier (1977) and of John Rawls (1971). He observes that both of these theories share two main arguments that first, questions of justice arise where there is a conflict of interest and second, that justice is that on which everyone can in principle reach a rational agreement. Brennan however notes that both of these theories offer contrasting answers to questions like what justice is and why we should be just.

According to the mutual advantage theory of Gauthier, Brennan argues that the rationale of the relations within social institutions is contractarianism. What determines the allocation of goods to people on the basis of their hypothetical previous agreement are the bargaining principles. If this construct is put into the equation of bargains between the present and the future generations, it will be exclusionary. The principles of justice are social choices and the future generations, by the virtue of their spatio-temporal absence do not have such an element. This implies that there may not be a room for justice for them.

From this argument, we find that the factors essential to the contractarian model of justice such as mutual benefit are absent from the present-future generations relations. This absence frustrates the attempt to approach inter-generational justice as a matter of mutual advantage contract. Contracts in this sense are only possible between members who are currently in a position to sign them.

However, John Rawls (ibid) argues quite differently. In his theory, the assumption is that in deciding on the principles of justice, we should not be influenced by our knowledge of what makes us different from others, nor by concept of what constitutes the good life. Rawls posits this as the veil of ignorance.

It may appear as if Rawls retrogresses or appeals to self interest pursuit. However, Rawls position is that all rational people will choose according to the maximum strategy so as not to leave one in an unfortunate position. His strategy is seemingly pointed to the principles being chosen. On one hand is the equal liberty of those entering into the contract. On the other is a different principle upon which social and economic inequalities are justified only if they are to the greatest benefit of the least advantaged. In this case, the motive for acting justly is not self-interest, but rather defending a principle without any appeal.

Schrader-Frechette (1993) notes that Rawlsian account of social contract is based on moral reasoning that we should base our contracts on the golden rule. Since each of us seeks to protect our possible interests, we ought to formulate social contracts based both on reason and self-interest. According to Rawls, rational people would not agree to contracts where they would endure losses for themselves in order to bring about a greater net balance of satisfaction. Rational people would choose to follow principles of equality. On these grounds, the present generation can combine rationality, self-interest and justice as the contractarian foundations of their obligations to the future generations.

Daniel Callahan in **The American Ecclesiastical Review**, (1971) points out that social contracts need not be necessarily pre-arranged. In his example of parent-child relationship, he observes that children are not asked to be born but rather, it is the parents who take upon themselves an obligation towards conceiving them. Likewise, in a social contract, one party may choose to accept an obligation.

Similarly, this model may provide a prototype for relationships between present and the future generations. The future generations are not asked whether they wish to enter into a contract. Secondly, they cannot or may not return the benefits passed to them by the present generation. The present generation, just like the parents, may not always know what the future generations need. However, lack of this complete knowledge of the needs of the future generations does not eliminate obligations to them.

The issue of our obligations to future generations from a contractarian perspective is best summarised by Joel Feinberg in Mappes and Zembaty (eds.)(1977: 358-9) thus "whoever these human beings may turn out to be, and whatever they might reasonably be expected to be like, they will have interests that we can effect for better or worse right now." The argument is that as the custodians of future generations, we know that they will have an interest in a living space, fertile soils, fresh air and the like.

Since we know that they will have such interests, it does not matter whether we know what the specific nature of these interests will be. All that is required is our knowledge that the future generations will have a conception of the social ideal and that we can affect it. We therefore have a contractual basis for our obligations to the future generations.

4.3.3 Reciprocity as a Basis of Moral Obligations

Lawrence C. Becker (1986) argues that people with whom we cannot have direct exchanges produce much of the good we receive. To him, we perhaps know who these people are. However, we cannot produce anything they value or reach them with

anything they produce. As a general justification, it is imperative that reciprocity does not always require direct, mutual exchanges.

Citing an example of the relationship existing between the present and the past generations can further concretise this argument. The past generations made sacrifices and this is the reason why we enjoy the natural resources we have in our environment today. Similarly, they made a few errors that we blame them for. The bottom line of this argument is that the obligation to reciprocate does not evaporate whenever direct, mutual exchanges are impossible. On the contrary, an obligation to reciprocate arises whenever we have received a good for which some sort of fitting and proportional return is possible.

There is a problem with the above conclusion that seemingly points to a contradiction. However, the core argument of reciprocity is that it is perfectly fitting to make our returns to people other than those who have benefited us. As we have already stated, much of the good that we have received today was produced by past generations.

While some of this good was the unintended by-product of the self interested activities of our predecessors, some of it was probably out of their concern for posterity. We have found private diaries of people like Beethoven, Shakespeare and other prominent people. Such diaries perhaps were meant to be destroyed but then they have gone a long way in rewriting their history. Some of these activities, like the desire to astound and please their contemporaries had a current bearing then. However, out of that concern, some of their activities went ahead to benefit whichever future might exist.

The past generations intended that their legacy benefit anyone who might exist in the future. They did not specify who their beneficiaries should be. As such, the

appropriateness of our making a reciprocal return for the goods that we have received from our predecessors is analogous to that of our making a return for the goods we have received from anonymous contemporaries with indefinite intentions.

If the above disposition is justified, we are therefore justified in reciprocating, as a matter of retrospective obligation, for the good we received from past generations. In this case, we obviously cannot reciprocate directly to the past generations. They have benefited us but now they are past and we do not have any control over them. However, we can pass on the benefits to the future generations with the same sort of indefinite intentions our predecessors had. When such benefits are produced for the future generations, the moral requirement of reciprocity is in principle satisfied.

Supporters of the reciprocity argument note that the ontological problem that vexes other theories of obligations to future generations does not arise in this theory. According to Becker (ibid), the

> "reciprocity arguments do not ground these obligations in the 'rights' or 'interests' of the members of the future generations. There is therefore no need to give an account of how non-existent people can have rights and interests."

The reciprocity theory, according to Becker, is the closest in answering the question whether we have or we do not have obligations to the future generations. To Becker (ibid: 232),

> "there is no need ... for argument about whether the utility schedules of possible persons must enter into our calculations, or

whether we must imagine that future generations are among parties to a hypothetical social contract."

Much as these questions are important, Becker concludes that reciprocity arguments bypass them.

The above view is shared by Walter C. Wagner in the **Futurist 5 No. 5** (1971). He argues that by recognising the rights of the future generations, we obtain in return a greater degree of happiness and self-actualisation. As individuals, Wagner thinks that by feeling a sense of obligation to our remote descendants, our empathy and compassion are increased and this is beneficial to us. This is a ground of feeling morally obliged to the well being of the future generations.

Van Rensealaer Potter in Bio Science, 27 No. 4, (1977: 251) puts the argument for reciprocity more boldly. Quoting an old manuscript of Benedictine Monks, "On the Conservation of the Pine Forests" Potter writes that,

"no one who plants a fir-tree can hope to fell it when it is fully grown, no matter how youthful the person is. In spite of this, the most sacred obligation is to replant and husband these pine forests. If we sweat for the benefit of posterity, we should not complain as we reap the results of the efforts of our fore-fathers."

It is for the above reason that we believe that the present generation has an obligation to the future generations. This generation, in matters regarding environmental conservation, owes to posterity concern of the same quality and degree that our ancestors

devoted to all generations. Through that concern, the happiness of the present generation was made possible. We, as a mater of reciprocity, owe the future generations such happiness.

4.4 Chapter Summary

In this chapter, we generally looked at the issue of obligations. We considered the diverse views held by scholars on the moral implications of our obligations to the future generations. Of our concern were the three views as to the extent of our moral obligations to the future generations.

While some scholars argue that our moral responsibility should be restricted only to the present generation, we argued out a case why our sense of moral obligations should be further extended to cater for the future generations. But by future generations, we pointed out that the concept should not only be used to refer to the only near future generations. It should also encompass the remote generations.

Our arguments were not arrived at blindly. We pointed out that there is a moral basis for our obligations to the future generations. We discussed utilitarianism, contractarianism and reciprocity as moral basis of our obligations to the future generations. These three theories may not be the only basis of our obligations. Despite their differences in approach, they all point out to the fact that the present generation has something that it owes to the future generations. The present generation may affirm the rights and the interests of the future generations and hence feel that they have a duty to safeguard their welfare.

However, it is our view that reciprocity and contractarianism are more helpful than utilitarianism with regards to the obligations the present generation has to the succeeding ones. This is because unlike utilitarianism, the two theories are not based on the principle of the type of happiness that may be brought in future. They are based on the entitlements to pass on the goods to future generations in the same manner the present generation benefited from past ones.

Thus, the present generation ought to reciprocate with future generations just as their beneficiaries, with whom they were not in direct contact, did. It should also recognise its contracts with future generations as an issue of distributive justice. The past generations, as a matter of justice, left a habitable environment for the present generation. Likewise, the present generation is bound by a contract to do the same for future ones.

In regard to the environment, the future generations are at our mercies. We may choose to degrade the environment as if we are the only ones who matter. Our present actions may inflict untold sufferings to the future generations that they may not be able to cope up with. The impossibility of providing complete due to all our descendants puts them in a state of helplessness. But as Hans Jonas in K. J. And P. R. Struhl (eds.) (1975:348) points out, "Utter helplessness demands utter protection." Thus, from whatever perspective we view the social ideal of future generations, we nevertheless have an obligation to provide them with utter protection. We should know what we are obligated to protect for them.

CHAPTER FIVE

ENVIRONMENTAL EXPLOITATION AND FUTURE GENERATIONS

5.1 Introduction

We have already seen that the present generation owes something to the future generations. This implies that the present generation has some obligations to them. Earlier on, we pointed that there is an environmental crisis that apparently is not only a threat to us but also for the generations to come.

The environmental crisis has its roots on how the present, as well as the past generations, have exploited nature. For generations, man has seen nature in the traditions of Rene Descartes, as an object of domination. It has, however, been inevitable that man had to exploit the environment for his survival.

In this chapter, we intend to look at the current state of the environment. We will look at the root causes of irresponsible environmental exploitation and to what extent the actions of the present generation have contributed to the environmental crisis which does not only threaten it but also jeopardises the probable existence of future generations.

5.2 Environmental Exploitation

In our ordinary usage, when one talks of someone having been exploited, what dawns on us is that such a person has been treated unfairly or outrightly misused. An exploited labourer thus becomes a person who is overworked to the advantage of his

employer. An exploited farm is a tract of land which has been over-cultivated to the extent that it is no longer productive, and so on.

However, the word exploitation need not necessarily be a word of condemnation. It can also be looked from a positive perspective. When we consider the artistic work of carpenters, we marvel at the way in which they exploit pieces of wood to make magnificent furniture.

While the above are examples of economic exploitation, the same analogy can be applied to the term "environmental exploitation." Throughout the history of civilisation, human beings have used the environment to meet their basic needs. The earlier generations cleared forests for cultivation and as a result, they were able to meet their demands of food. Likewise, they exploited other resources to meet their needs of clothing and shelter.

What the above points at is the inevitability of exploiting the environment. It is in the same situation that the present generation finds itself today in the sense that it has to meet its needs too. In a nutshell, the present as well as the preceding generations have used the environment to meet their requirements. It should be noted, however, that it would be self-deceiving to think that this exploitation of the environment has not had some negative consequences. Whereas the earlier generations could afford to utilise the environment without being overly concerned about the depletion of such resources, owing to their abundance, the same cannot be said of the present generation.

There is evidence to prove that some cases of unwise environmental exploitation have had negative consequences to the present generation. Daniel W. Skubik in Oruka (ed.) (1994) cites the example of logging in Brazil. The Amazon Basin is being depleted

of its forests at alarming rates by paper manufacturing concerns. While the firms may be making enough profits from their exploits, the people living around the Amazon basin are complaining about the firms' infringement of their rights to a well-regulated environment.

In Indonesia, Robin Attfield in Oruka (ed.) (1994) highlights the problems of the tribal people living around Arfak Mountains. They are poor but nevertheless threatened by timber companies who want to exploit the forests for their economic gains. If these forests are cleared indiscriminately, these people risk being left without shelter.

In June 1 998, the United Nations World Health Organisation (Kenya Times: 13), released its report on Health and Environment in Sustainable Development. The report observed that "about twenty five percent of the global burden of diseases and injury is linked to environmental decline." The report gave some alarming statistics of the deaths arising from water and air-borne diseases, all of which were blamed on our reckless use of the environment.

As a synthesis of an earlier research done by World Health Organisation officials, the report outlined the public health implications of pollution, deforestation and other standard categories of environmental decline.

Another example of unwise environmental exploitation is evident in Bangladesh (**Science**: 1998). Due to the scarcity of clean drinking water in the region, some engineers were contracted to drill boreholes a couple of years ago. What was seen as a long-term solution to the problem of water scarcity has now turned disastrous. There is enough proof that the water in the sunken boreholes is contaminated with arsenic today and this is being blamed on the engineers themselves. The would be beneficiaries of these water

sources are now developing skin ailments which scientists and doctors say are cancer related.

The bottom line of the above examples is to show the inevitability of the present generation exploiting the environment. We have argued that there is a desirable way of using the environment to meet our demands. This is what we have called wise exploitation. However, there is the flip side of such exploitation which usually emanates from our self-interest pursuits such as economic gains. What is common to the two forms of resources exploitation is that they are means to promoting the good of the present generation. The paradox is that the present generation has to exploit the environment for its survival but still leave it intact for the future generations. However, if the present generation does not exploit the environment, it will perish and it will follow necessarily that there will be no future generations since no generations can exist in isolation.

If we look at the state of the global environment today, we have contributed to its current crisis through our unwise exploitation of its resources. If the present generation can exploit the environment more wisely, perhaps they can satisfy its needs while preserving the same for the future generations. This may be possible if the present generation can act to avert, first and foremost, the looming environmental crisis.

5.3 The Environmental Crisis

We have already pointed out that the environmental problems we are encountering today have culminated in man's attitude towards nature. Thus, the environmental crisis has a cultural dimension. The present generation has problems thinking of how it is interdependent with nature. It has a crisis of linkage since it cannot

establish what ties it to the environment. On the other hand, it takes itself to be part of the environment and even encounter problems trying to point out what separates it from the same. The present generation cannot simply explain this limitation.

The roots of this two-fold crisis can be traced in the history of mankind. The damaging changes being suffered today by the environment are far more rapid and widespread than anything known in ancient times. It is evident that the modern environmental crisis is to a great extent the result of irresponsible human attitudes that can be traced in the history of civilisation.

The present generation finds it problematic and even difficult to bring itself at a moral par with the environment. It therefore uses rationality as the tool that gives it an upper band over the environment. Instead of being interdependent with the environment, it mistakes that interdependence for dominion. As a result, it encounters a crisis with the environment due to the failure of recognising its ties with nature. However, the present generation at times takes itself to be part of the environment. This is particularly when it is faced with intractable problems. It tries to seek solutions to such problems and even tries to show how it is interdependent with nature.

Donald Hughes in Botzler and Armstrong (eds.) (1998) points out that today's attitudes stem from similar ones that were held by the ancient people. He observes that before the advent of monotheism, there was the "world full of gods" - the animist's world. Animism saw the natural world as sharing human qualities and treated things and events in nature as sacred objects of respect or worship. Natural things were seen as having value for their existence.

Hughes argues that with the coming of Greek philosophers, there was a sudden departure from animism. They taught about the role of reason and insisted that human mind has the ability to discover truths about nature. They reflected traditional mythological and religious explanations of the natural world. The environment was to them an object of thought and rational analysis.

Paul Allen III in Oruka (ed.) (1994) gives an example of Plato who evolved a world-view that depicted nature as a temporary realm of secondary value. In Plato's theory of forms, human beings are of a higher form than material things. As a result, nature was seen only as instrumental to the spiritual beings that were regarded as superior. Nature was there to be mastered, conceptually and scientifically, to meet the purposes of the spiritual beings.

With the rejection of animism, the worship of nature became merely a ritual. Philosophical understanding started taking root. The Protagorean dictum in Plato's Theaetetus that "man is the measure of all things" was a point of emphasis by the Greek teachers. It therefore followed that since man is superior to nature, everything has its usefulness to man as its very reason for existence.

Hughes (ibid) notes that the Greeks themselves only expressed a philosophical opinion that, however, became for the Romans a practical reality. The Romans welcomed the philosophical ideas of the Greeks. Through their ability to dominate and to turn most things into their own profit, they started treating nature as if it was one of their conquered provinces. As Hughes (ibid: 158) puts it,

> "If they needed any justification of this beyond their own pragmatism and cupidity, they could find it in Greek Philosophy, which reached them in a late, sceptical form that had removed the sacred from nature and made nature an object of manipulation in thought and, by extension, in action."

Allen III (ibid) observes that later on, St. Augustine and other Christians propagated the Platonic view by pointing out that nature is less permanent and less valuable than the spiritual world. Instead of being divine in itself, the Christians saw nature as a lower order of creation, given as a trust to mankind with accountability to God. People tended to take command to have dominion over the earth as blanket permission to do what they wished to the environment. Thomas Hobbes, Allen observes, followed this tradition, in the 16th Century. However, unlike Plato, Hobbes was less respectful about the natural things. He taught that all of nature is one huge machine consisting of mechanical matter that is meaningless. Even beings are made of that meaningless stuff and do not have a soul to distinguish them from the other things in nature.

The roots of our current environmental crisis are however more manifest in the works of Rene Descartes. In his dualism, Descartes emphasises that mind and body are radically distinct. While the humans are intelligent and non-extended (res cogitans), natural things are composed of extended matter (res extensia) in motion. This distinction strips natural things of all intrinsic value and depicts them as different from human beings. They stand revealed merely as resources for human ends.

For Descartes, man should behave as the master and owner of nature, according to a relationship of distancing and domination. Francis Ost in **Wallonie/Bruxelles** (1997:16) observes that in the teaching of Descartes, "nature had to be understood in order to be imitated, imitated to be surpassed, surpassed in order to be appropriated."

Descartes dualism points to the absolute differences between man and nature. While Hobbes had implied that human beings have something in common with nature, namely the material stuff that constitutes the two, Descartes deepened the alienation between them by arguing that human beings are composed of entirely different stuff from the natural things. The superiority of the soul over the body is then viewed as the tool of domination of nature.

The Cartesian dream of dualism became actual with the emergence of capitalism. Allen III (ibid: 274) points out how

> "John Locke eased the way for capitalism by finally putting into words a revolutionary new concept that had been emerging. Since the end of the middle ages, the idea that fields, woods and other areas of nature are real estate to be bought, sold, and owned."

Bearing this in mind, the capitalists were indoctrinated to act aggressively and ruthlessly towards the environment as a way of realising their passion for property.

Ost {ibid: 16) argues that as a result of the pursuits of our passions, the capitalists through "technology have succeeded in this better than anyone had expected and has led to the paradoxical situation in which we find ourselves." He cites the example of the supernatural world that we have created, an artificial nature, of which the most extreme is

the creation of transgenic animals and plants. Through science, life can now be manufactured in laboratories.

Ost further describes what we may call a dead nature. The current environment has been polluted and its biodiversity is being diminished further with every passing day. His argument provides a good reflection of the Cartesian dualism between res cogito, the thinking matter in the position of mastery and on the other, the res extensia, nature reduced to a simple material substance at the mercies of its master.

Due to the mastery of nature, as well as the manipulation, the scientists, the industrialists and economists have profoundly transformed nature. It is our belief that this has been done under an anthropocentric framework. Man, in his self-interested pursuits, views himself as a conqueror of nature. He fails to realise that apart from being a soul, he is also a body that should live according to the rhythm of nature. He should manage a cohabitation of spirit and body knowing that he has evolved together with nature.

This is where the whole problem lies. The present generation may partly be in agreement with that. They have perhaps started seeing the vulnerability of nature and how their actions are transforming it. However, the present generation is bedevilled by the often-cited problem of population increase to an extent that it has to over-exploit the environment to meet the demands of the currently existing people. Despite this recognition, the present generation is also aware of the fact that it cannot exploit nature to the point of causing irreversible damage to the environment. If such damage becomes real, it will be a threat to the very prospects of the currently living people as well as to the future inhabitants of the planet.

From the foregoing, the question arises whether it is then possible to use the environment to meet the demands of the present generation with its population pressure while at the same time conserving it for the future generations. If this can be possibly done, we can avert the environmental crisis. This will be discussed under development and environmentalism.

5.4 Development and Environmentalism

The concept of development is a diverse term. We often talk of social development, political development, cultural development, economic development and so on. For the purposes of our thesis, the term development is used to mean economic development.

In economic circles, it is easier to define underdevelopment than development. When we talk of development, we usually use the parameters of underdevelopment to show what has not been achieved. Thus, an underdeveloped nation, for example, has variables such as malnutrition, high infant mortality rates, poor medical facilities, inaccessible infrastructure, low levels of literacy and so on. From this concept of underdevelopment, development can be defined as either the process or the condition resulting from the process of moving away from the cycle of underdevelopment.

During the **Rio Summit on Environment and Development** (1992), a declaration was passed that "the right to development must be fulfilled so as to equitably meet development and environmental needs of present and future generations." The Copenhagen Declaration later followed this during the **World Summit for Social Development** (1995) and stated that we should "fulfil our responsibility for present and

future generations by ensuring equity among generations, and protecting the integrity and sustainable use of our environment."

The two declarations at feast confirm our earlier argument that the plight or the destiny of the future generations rests squarely with the present generation. There is a tight interconnectedness between the two generations to such an extent that we need to show what the implications of the action of the present generation to the future ones are. Yet, there is an issue stemming from the same in the sense that economic development and environmentalism seem to contradict each other. The problem is whether the two are reconcilable.

One fact that we can readily recognise is that there is a dwindling global supply of natural resources, which is further complicated by an escalating global population. With each passing day, more pressure is added on the environment resulting to its further exploitation. The environment inevitably becomes an object of exploitation to satisfy the needs of the present generation.

We have already pointed out that the interests or priorities of the present generation are apparently more paramount than those of the future generations. As a consequence, the present generation must meet its needs first as a step towards catering for the needs of future generations. The problem, however, is that while the resources are decreasing, the population is increasing. This means that resources will diminish to a certain level that they may no longer support life on earth. That may be an alarming assertion but the fact is that with every passing day, the environmental load becomes heavier due to the increases in population.

Eventually, economists attempt to find ways by which the environmental load can be reduced. They argue, for example, that if improved farming techniques are put in place, more food will be grown and this will cater for the exponentially growing population. This may be true. With the introduction of artificial fertilizers, pesticides and insecticides, more food has been grown and preserved. With the advent of industrialisation, once dry lands have been rehabilitated to fertile farmlands.

Economic development thus emphasises economic growth and efficiency. What we overlook is that with every economic expansion, the resource abundance is closely followed by population increases of such magnitudes as to threaten the capacity of the resource base. This is because the standards of living are raised. What the economists fail to understand are the environmental implications of such developments.

While economic development may be the answer to the problems bedevilling the present generation, environmentalists view it as the greatest enemy of the environment and by extension to the future generations. It is not that the environmentalists are opposed to economic development. They are also beneficiaries of such development since it raises their living standards. The problem is that economists do not distinguish between short-term and long-term economic goals. Kristin Schrader-Frechette (1993) points out that while the short-term economic goals may be consistent with environmentally sound actions, the long- term ones may not.

The economic goal of using pesticides to preserve grains, for example, is to ensure that the harvests are not affected hence ensuring that there is a stable supply of food to the world population. In the short-run, it is a very noble goal in that the supply of food is guaranteed through good storage. The problem with the environmentalists is the

long-term repercussions of pesticide toxicity. Scientists and medics warn of dangers posed by ingesting unacceptable levels of toxic chemicals in the food. Toxicity may be hazardous to future generations since they will be potentially born with genetic disorders. This is a moral issue: If such an eventuality arises and some people in future are born with genetic disorders arising from pesticides toxicity, will they be justified to hold us morally responsible for their fate? The answer is that they will, for the very reason that we brought about their condition either through negligence, ignorance or indifference to their probable existence, which would by then be actual.

The core of the argument above is that more often than not, there are conflicts between our economic pursuits and our environmental concerns. Spretnak and Capra (1986) cite the examples of some multi-national giant corporations whose economic goals contradict the environmental well being. Goodyear, Volkswagen and Nestle are

> "now bulldozing hundreds of millions of acres in the Amazon River basin in Brazil to raise cattle for export... .In Senegal, vegetables for export to Europe are grown on choice land while the country's rural majority goes hungry..."

Since economic development entails growth and expansion, its advocates would not see any problem with such exploitation of the environmental resources. They would argue that if economic gains are maximised from such a venture, then the exploitation is desirable. They view such an expansion as desirable because it increases the prospects of a better life to members of present generation.

Spretnak and Capra (ibid) argue that such advocacy is very short-sighted. This is because such ventures not only compromise the long-term goal of sustainability but also the rights of some members of the present generation. Some multi-national corporations are therefore seen as the principle agents of today's global environmental exploitation. They are extremely careless in their handling of the natural environment to an extent that they pose serious threats to the global ecosystem.

Cavanagh and Broad in Danaher (ed.) (1996: 157- 162) cite the devastating impact of the mining powerhouse, Freeport McMoRan. Environmentalists in Indonesia accuse the corporation of over-emphasising economic growth of assets and profits. These goals have taken precedence over the concerns of indigenous Indonesian people and their environment. In Kenya, Tiomin PLC (Daily Nation, 10th December, 1999), a Canadian multinational company with prospects in titanium mining is presently at the centre of controversy with claims that it is jeorpadising the lives of Kwale residents. Some of the hazards cited by environmentalists are air, water and noise pollution. Leaders in Coast province have lately voiced their concern over the operations of the company arguing that it should take responsibility over these hazards or stop its operation in the region.

We are not denying the fact that if the multi-national corporations were to stop their operations, economies will be grossly affected. It would mean loss of jobs to people whose livelihood depends on them. Our argument is that the multi-national corporations ventures should not compromise the long-term goal of sustainability since this would be detrimental to members of future generation.

Thus, we are not against the economists utilising the resources from the environment to meet our needs. Our problem is that while the advocates of economic development have a right to use these resources to meet our present needs they should not impair the rights of the future generations to meet equitably their needs when they come into existence as we have already pointed out.

The high stakes in this matter require us to go beyond strict economic logic. The proponents of economic development have failed to reflect the full social and environmental costs, including the costs to future generations. Our short-term economic pursuits are myopic and through them, we risk making future generations pay a very heavy price. The problem is whether economic development can be compatible with the environmental well-being. Can the ecological parameter be integrated in the economic paradigm to achieve eco-development?

5.5 Eco-development

By the term eco-development, we mean an integration of environmental issues to development ones. It is a combination of economics and an environmental approach. Alexandra Herrera Ibanez in Oruka (ed.) (1994:257) defines eco-development as "any kind of development (economic, scientific, technical, etc.) that takes into account not only the welfare of human beings but of all sentient beings affected by its actions." In other words, eco-development is any development guided by the environmental ethics.

There is a whole ethical dimension to this notion of eco-development. It points to whether environmental ethics can be pitted against the economy. Christine Rugemer in **Wallonie/Bruxelles** (1995:18) question on that possibility is left begging for an answer.

Ibanez (ibid) notes that usually,

> " when economic development and environmental quality clash, the latter gets the worst part... when there is a conflict between the economic development of a human population and the quality of its environment, the latter must be preferred to the former if the harm that would be caused by the former cannot be repaired. If the harm caused by the former can be repaired, it must be kept to a minimum and the results of economic development should provide the means to repair the harm caused."

This is the position we find ourselves in today. The problem is that when economic pursuits and environmental ones clash, we tend to promote further the interests of economic development at the expense of environmental quality. Due to the fact that further exploitation of the environment will lead to higher profits, the resources of the environment cannot survive soundly. Eventually, the environment is depleted of the necessary life-support resources and this becomes detrimental to anyone who may exist in the future. At present, each part of the natural environment that has not been destroyed presents a potential source of financial profits to the entrepreneurs. Instead of correcting the past environmental mistakes, the present generation's pursuits create more problems.

Environmentalists argue that we should act to save what has not been destroyed and perhaps to rehabilitate what has been misused. Jan Wawrzyniak in Oruka (ed.) (1994:307) points out that

> "the efficacy of environmental protection depends on the intentions of protective actions. These actions must be undertaken for the purpose of environmental protection and not with the aim of economic profits achieved through protection."

Still, it does not mean that since nature has an inherent value, a value in itself, we will not need it to meet our needs.

However, eco-development unequivocally subordinates financial interests, and artistic satisfaction as well, to superior vital values such as health or eco-equilibrium. It calls for a form of practical philosophy such that there should be wisdom of moderation and mutual respect between man and nature. As we have earlier stated, dialectical wisdom between the two is elusive since human beings take themselves to be pure Cartesian cogito. As a result we profoundly humanise, socialise and pollute the environment. The vulnerable environment we have today has resulted primarily from the attitude that we are superior to nature.

It may be true that human beings are superior to nature. However, the superiority has its limitations. Human beings will get to a point where they will realise that the damage they would have impacted on the environment may be irreversible. Their survival, as well as that of the future inhabitants of the planet would be compromised. The point we are driving at is that we hardly acknowledge our interdependence with

nature simply because we believe that it is inferior to us. However, while nature does not need us, we cannot do without it. Nature can survive on its own while human beings cannot.

It is for the above reason that supporters of eco-development propose a new outlook towards the environment. It is on the same basis we propose that the present generation should revisit the concept of responsibility and regard itself as being responsible for the planet as well as for the future generations. Both the environment and the future generations are vulnerable, but nevertheless under the control of present generation. Responsibility is a virtue which has been neglected for a long time especially iii regard to economic development. Over exploitation of resources, coupled by misuse of the same, has led to the verge of the ecological catastrophe.

Tomonubu Imamichi in Oruka (ed.) (1994) cites the example of experimental nuclear explosions that destroy life on a global scale. He argues that freon gas depletes the ozone layer on global levels. Our conclusion is that such damage is not only confined to the present but also continues for future generations. Daniel Skubik (ibid), on the other hand, gives an example of the military government of Burma that due to a feeling of an urgent need of funds to refurbish its weapons stockpiles as well as to meet some of the needs of its people, went ahead and sold off its large natural reserves of forests to logging companies in 1991.

The above are examples of irresponsible behaviour of the present generation. It is imperative that in all these economic pursuits, the prime goal was progress or self-preservation. The present generation forgets that it is the custodian of the environment. Its economic pursuits become detrimental to the human as well as non-human well-being.

By extension, this affects the future generations as well as the environment that they may inherit from it.

The present generation should revisit the concept of obligation and regard itself as being responsible for the environment as well as the future generations. As we have argued earlier, the notion of obligation is a very human idea that is based quite simply on the generation gap. We have already pointed out that an obligation involves 'passing on' responsibility. The past generations took responsibility for the well-being of the environment. Today, the present generation benefits from the obligations they took upon themselves to pass on.

Similarly, the present generation has such a responsibility to pass on the natural and cultural heritage intact to the generations to come. However, doing this faces it with asymmetrical situations. This is because as regards the future generations, they cannot give the present generation anything in exchange. This idea might seem obvious, but it can only be asserted if the present generation, as we have already stated manages to surpass its contemporary conception of time which is strictly instantaneous in nature. For the present generation, the past seems to have nothing else to teach it while similarly, the future seems improbable to the same.

This may be perhaps the greatest enemy of eco-development. Currently, the present generation seems to lack memory and consequently, it is unable to make projections or plans for the future. This is what we may call the culture crisis. The important challenge here is to learn how to re-integrate ourselves into an environment in which the links between the past, the present and the future are re-forged. This will be a fundamental prerequisite towards achieving an environmentally sustainable development.

5.6 Chapter Conclusion

The environment, as we have already observed, faces a critical moment today basically because of domineering attitudes of human beings towards it. As a result of the economic and material needs of the present generation, we have pointed out that it is inevitable that the environment has to be exploited.

The problem, however, lies with how the exploitation is done. While it may be possible for the present generation to exploit the environment wisely to meet its needs while safeguarding the interests of the future generations, it outrightly chooses to ignore the probable needs which they may have.

This is evident in the many changes that the present generation has impacted on the setting and which now apparently threaten the life support systems of the planet. While, for example, it pollutes rivers and oceans through irresponsible emissions of industrial effluents, it jeorpadises the water sources as well as the marine life. While the present generation needs clean water today, it should also take the considerations of the people who may come after it. The same case applies to other resources like clean air, fertile soils and so on.

The bottom line of the above argument is our affirmation that we currently have an environmental crisis, which has trickled down through centuries from our ethics of manipulation, domination and superiority. Is it then possible to reconcile development and environmentalism such that there is a co-existence of the two? Perhaps this is the only way out of the environmental crisis we are experiencing and the only sure way of safeguarding the interests of the future generations.

CHAPTER SIX

SUSTAINABLE DEVELOPMENT, ENVIRONMENT AND THE FUTURE GENERATIONS

6.1 Introduction

In our last chapter, we saw that the looming environmental crisis has resulted from the way the past and the present generations have related with the environment. There has been a negative attitude by human beings towards the environment which has cut through generations.

While the present generation may hold past generations partly responsible for some of its current problems, it is our belief that it has the power to reverse the present situation so that future generations will inherit an environment that enable them meet their needs.

In this chapter, we will look at what sustainable development entails. This will be discussed in the context of some of the key areas of our environmental concern today. This will form the first part of our chapter. In the second part, we will look at some past experiences of environmental exploitation. We will use them to see whether there are lessons that can be learnt from such experiences, and whether they have some relevance to our contemporary environmental predicaments.

6.2 Sustainable Development

In 1987, the World commission on Environment and Development, popularly known as the Brundtland Commission (Our Common Future: 1987) popularised the term 'Sustainable development'. Calling for development that meets the needs of the present generation without compromising the needs of future generations, the commission highlighted the need to simultaneously address developmental and environmental imperatives. The commission emphasised on improving the quality of human life while living within the carrying capacity of the environment.

Sustainable development has been defined from a number of perspectives. To economists, development is measured in terms of assets and profits. However, sustainable development demands a link between such economic pursuits and the costs such development will impact on the environmental resources.

From our understanding of the Brundtland report, sustainable development and environmental problems are closely related to humanity and educational problems. This implies that understanding the environment is critical to establishing a harmonious balance between human beings and how they exploit the environment. Consequently, the impact of economic practices ought to reflect on the interconnectedness of benefits to the presently living people, the environment and succeeding generations.

It may be for the environmental crisis confronting the present generation that it is suddenly and urgently realising why it should have an environmentally related sustainable development. In his speech to the United Nations **Commission for**

Sustainable Development *(1994),* Al Gore, then Vice President of the United States of America noted that people have all along thought that the global environment will be impervious to the rapidly mounting degradation being meted on it. As we have earlier stated, the present generation's attitudes of manipulation and mastery had not shown any signs that they realise or take seriously that the resource base will soon dwindle and be a threat to its very existence.

However, the evidence of deterioration of the environment has now dawned on it. Lands, forests, fresh water sources, just to mention but a few are some of the threatened resources around the planet. As a consequence, the present generation can now recognise the extent to which it is damaging the global environment and as a result, it has to develop ways to foster economic growth without environmental destruction. We should take a serious note here that this realisation emanates from the fact that it feels momentarily threatened otherwise it might not even be acting for the sake of future generations. The reason may be to further its own interest; the interest being its very survival.

The recognition of this very fact should form a basis of the present generation's obligations to the future generations. The changes brought about by its irresponsible attitudes towards the environment are manifest in virtually every part of the planet today. Soil erosion, desertification, famine and poverty are just but some of the problems the present generation is experiencing. The irony is that most of these problems are worsening with every population increase. Yet, despite their effects on the current generation, people and governments alike do not seem to have the will to control them, let alone to stop them.

From the foregoing, sustainable development is only theoretical and rhetorical. If we consider global poverty as an example, the resource-endowed and the industrialised countries are barely helping to alleviate the problem of poverty in the so called developing countries. At a level of policies, the rich countries are very vocal but implementing these policies is another case altogether.

On the other hand, the present generation has reached a point whereby it has to face some very unpleasant truths about itself. One of the facts is that the number of people in the human family continues to grow. John Gummer, then Secretary of State for the Environment in Britain (1994) argues that it took the whole of human history up until 1850 to reach the first billion. Al Gore (ibid) puts it more aptly that up to the end of the Second World War, it had taken more than 10,000 years to reach a world population of a little more than 2 billion people. Yet in the past fifty years, the population has grown from 2 billion people to the currently projected population of about 6 billion people. This very population may stand at 10 billion people in the next fifty years.

The bottom line of the above argument is that the present generation cannot afford to continue treating the environment as an object of mastery at its disposal. We have already stated that for far too long, human beings have thought of the environment as something to be conquered or to be overcome. The key words have been manipulation and mastery.

The population growth of the above said magnitude demands the present generation to generate enormous momentum for change. If this is not put in action, the harsh realities will be taught to its successors. Nature will take its revenge on the future

generations and tame them. The overriding task, which is a moral obligation, is for the present generation to look for more environmentally sustainable options which, while fulfilling its needs will also fulfil the needs of the generations to come.

From one perspective, this obligation would appear a very simple task. The present generation is aware that the current ecological crisis is multifaceted and as we have already observed, it touches on every aspect of its lives: the health and the livelihood, economy and technology and even on relationships. All these translate to the very survival of human beings on this planet. With this sort of awareness, we might look for the options in unlimited material progress that can be achieved through economic and technological growth. Such options may be right but would also be against the tenets of sustainable development in the sense that the environment would still be viewed as a mechanical system at the disposal of human beings to satisfy their short-term needs.

The goal of sustainable development is focused, as we have already argued, on a long-term vision, which while promoting economic development also considers the well-being of the environment. It is therefore our thesis that if sustainable development were put in place, then present obligations to future generations would be met. This, however, would only be possible if solutions are sought to some of the key problems facing the environment today.

6.3 Key Areas of Environmental Concern

The environmental problem is a global one. We have pointed out that it is a problem to the developed as well as the developing countries. The current problem, to a large extent however, has resulted from the outcome of a high level of economic

development. Thus, the developed countries have contributed more significantly to the environmental problems than the developing ones.

In order for the industrial growth to thrive, a lot of raw materials were needed. The search for materials/resources for industrial development transcended national boundaries and indeed continues to do so to this day. Thus, out of the process of development, we have arrived at an undesirable situation where the developed nations have environmentally impoverished the developing countries.

The situation is particularly bad in the developing countries. The problem of the environment in these countries is two-fold. On one hand, human interference on the environment has more to do with survival than material progress. People have to exploit their lands to expand on their modes of agricultural production. They have to exploit the forests for cheap fuels as well as to meet their building needs. On the other hand, they have to rely on the sales of some of their resources to the developed nations so that they can get some of the manufactured goods from the industrialised nations.

From the foregoing argument, we can say that the major problem bedevilling the developing countries is poverty. Problems of poor water supply, diseases, nutritional deficiency and bad housing, just to mention but a few of the myriad problems, are prevalent in virtually all developing countries.

In 1980, the **World Development Report** (1980:33), concerned about the global poverty, described the state of absolute poverty as that "condition of life so characterised by malnutrition, illiteracy and disease as to be beneath any reasonable definition of human decency." This life is the defining mark of most developing countries.

The present condition of these people presents a fertile ground of thinking how life might be for the generations succeeding us. The generations succeeding the struggling over one billion people or twenty percent of the global population today might inherit a more disastrous world with more nutritional deficiencies, poorer water supplies, more complicated sicknesses and so on.

Consequently, the present generation should, as a matter of priority, address the problems affecting it as prerequisite towards addressing the needs of the future generations. If this is not done, then moral responsibility will be meaningless in the sense that in theory it will sound very prudent and plausible while in practice, some members of the present generation will continue suffering and this, in effect, will mean even more suffering for generations to come.

While there are many areas of environmental concern, we will restrict ourselves to global poverty and resource distribution.

6.3.1 Global Poverty as an Environmental Problem

As we have observed, the environmental problems that are being encountered today are a threat to the quality of life. This can be confirmed with regards to the effects of pollution on health. This is a global phenomenon affecting the quality of life of people both in the developed and developing countries.

While some problems threaten only human well being, the problem of poverty may threaten life itself. There are statistics showing the global scales of poverty. It is on these very scales that there is a differentiation between the developed and developing countries.

This does not mean that poverty is a preserve for the developing countries. Michael Todaro (1989) has observed that absolute poverty readily exists in some parts of New York City just as it exists in other cities like Calcutta or Lagos. The only difference is that the magnitude of poverty is likely to be much lower in terms of numbers or percentages in the developed countries.

However, the developed countries have the resources to make life habitable for their present living members. They have dependable economies through which the demands of their present generation can be met. In effect, this means that the welfare of the distant generations is somehow catered for. This is not the case with developing countries. Developing nations are not well endowed in industries, finances or in resources. In the developing nations, conditions such as rising poverty and mounting debt form the context in which individuals struggle to meet their basic needs of survival and nations wrestle to provide for their populations.

It is true that most of the people in the above described situations find it rather problematic to secure their basic needs. This, coupled by the fragile environments in which they live in, leaves them with no other alternative but to further degrade the already fragile and poor environments in the course of trying to meet their needs.

The implication of this environmental deterioration is that the quality of life is adversely affected putting the poor population in an even more precarious position. As a

result, the prospects for meeting the needs of the generations to follow are diminished. This is because of the fact that the very resources with which the needs of the future generations would have been met have been jeopardised by the present ones. It is unclear whether this would be unethical granted that the rights of the present generation would be a first priority.

What is outrightly unethical is the fact that due to the fundamental difference between the environmental concerns of the rich nations (which focuses on the quality of life) and those of poor nations (that concentrates on survival itself), the former has compromised the latter. This is evident in access to distribution and access to the global resources.

6.3.2 Resource Distribution

Jennifer Elliot (1994:19) notes that it is perhaps the problem of resource distribution that mostly threatens the prospects of sustainable development. She notes that inequalities in access to resources "confines large numbers of people to poverty which often leaves them with no choice but to degrade and destroy the resource base on which their future livelihoods depend."

The argument above has a historical backing that can be traced far back as in the Trans-Atlantic slave trade, Industrial Revolution in Europe and lately in colonialism. During the Trans-Atlantic slave trade, human beings were hoarded in ships and taken to work in plantations in South America. They provided cheap and unpaid labour that paid handsomely for their captors. The crops they grew were sold profitably to the developing Europe that supported their industrial growth.

Moreover, due to the industrial expansion in Europe, more resources were needed. The economy minded Europeans ventured into new lands in search of more resources and colonised them. Under colonialism, hundreds of thousands of natives were hoarded in unproductive land while the colonialists settled on choice lands. This was detrimental to the few resources at the disposal of the massive populations. In turn, the ever increasing numbers of people put more pressure on the resources due to poverty and resource over-exploitation became a vicious circle. The environmental problems in most of the developing countries, particularly in Africa and Latin America can be traced from the effects of colonialism.

The inequality in access to resources therefore stems from actions that the past generations took. We have said that past events may have some lessons to teach us, but are nevertheless beyond our control. One such lesson is that we can see the historical basis for the multiple worlds that we have today. By multiple worlds, we mean a world consisting of poor and rich people, resources endowed and resources disadvantaged and so on.

During the World Environment Day in 1994, the theme, "One Earth, One Family" was adopted. From a theoretical perspective, it was a very good theme. The developed and developing countries, so it was thought, should remember that they are members of one family. The overriding task of the theme was to ensure that change towards sustainable development was brought all over the world. The well to do members of the family were expected to help the ones in problems.

Pope John Paul II, in his message for the day, used the analogy of a family for the

planet. His observation (Our Planet: 34) was that

> "God created the world as a delicately balanced whole and entrusted it to one human family, charged not only with its conservation but also with the transformation of this Earth for the benefit of all. The family... is the place where coming generations best learn how to live in love and respect for one another.... increasingly aware of its responsibility to see that the Earth is protected, and to ensure that everyone enjoys its 'fruits'."

It is more than five years since the papal message yet the human family has not mooted plans how the resources will be enjoyed for the benefit of the presently living as well as the future generations. This takes us back to the other argument about present obligations to the future generations. Some members of the present generation, particularly the poor in both developed and developing countries cannot be held morally responsible by the succeeding generations for the type of environment that they will inherit. This is because, much as they may feel morally persuaded to take responsibility for the interests of the future generations, they do not have the means for acting for their own good, let alone for the good of others.

This does not mean that we are advocating for their 'unwise' exploitation of the environment. We should not overlook the fact that poor people exploit the environment as their only hope of survival. This is their first responsibility that we strongly feel is also a right and a priority. Future generations may be appealing to them but nevertheless, they do not have much to offer them. If the present generation in poverty stricken conditions

lives in an environment which cannot support their very well being, there is no reason that their successors can blame them for what they would have passed to them.

However, this is not a reason enough why the present generation should not act to make the environment better for their succeeding generations. The present generation can start some basic education programs in schools, villages and so on. This, for example, will help people to understand the worth of conserving the resources, keeping the environment clean and devoid of air and water pollution. This will not only be for their sake but also for the well being of their successors. This, coupled by some low cost projects like reforestation, will be consistent with saving the environment for future use.

6.4 Morality of Consumption

From what we have observed, the problems of the future generations will most probably stem from those ones of the present generation. If this is true, it means that responsibility for the future environment ought to start with the presently living people as a prerequisite to the legacy they would leave for their successors. The succeeding generations may require clean air, freshwater, and adequate food for their continued survival.

At the moment, the planet is bedevilled by many problems. There are issues like hunger, ill health, inadequate shelter and so on, all of which emanate from poverty and which are felt more seriously in some geographical areas than others. This, as we have already pointed out is felt more in the developing countries than in the developed ones.

The argument above leads to some ethical considerations regarding the current global resource consumption. Maria Elena Hurtando in **Our Planet** (1994:18) observes

that the industrialised countries have less than a quarter of the world population. This notwithstanding, they consume four fifths of the world's natural resources. This implies that over three-quarters of the world population is left with only one-fifth of the natural resources to survive on.

The moral issue arising from this observation is that the greater part of the population is left suffering at the expense of a few people. This necessarily has negative implications to most members of the present generation and by extension to the future generations. This is because when the present generation does as it pleases with the natural resources in the short-run, the future generations will be the losers in the long run. This may imply that limiting the consumption of presently existing resources will be in the best interest of the future generations. The moral question that we ought to be answering is how large a proportion of the earth's resources should the present generation be consuming and how much it should be saving.

This assertion has problems with some scholars. In his reaction to the MIT report, **The Limits to Growth,** Ansley J. Coale in Schrader-Frechette (1993) claims that developed countries like the United States do not have an obligation to limit their resource exploitation. Coale argues that at the moment, the resources base is not very threatened and even if it were, substitutes to the existing resources will be found. He adds that the high consumption patterns of the developed countries is in the best interest of the poor ones in the sense that these nations provide a market for the developing nations to sell their raw materials.

Coale's argument, in our view, is flawed. It may be the case that the resource base is not threatened in some countries. While this may be the case for some geographical

positions, we have already argued out cases for areas where the resource depletion is threatening the very existence of the people living around. Some developing countries do not have enough food to feed their people due to exhaustion of soils, lack of adequate water resources, and so on. The issues of shortage of some resources therefore threaten some members of this very generation.

His second argument is very misleading in the sense that while it may be true that raw materials from the developing countries have a ready market in the industrialised ones, it is the former who pay heavily from the manufactured products that are readily marketed to them. The existing economic dimensions are more favourable to the industrialised countries and this explains why they are in a position to use most of the existing resources despite the fact that they are fewer in numbers.

E. C. Pasour in Schrader-Frechette (1993) also attempts to justify the desirability of the current patterns of resource consumption. His argument is based on the notion that every person knows what he needs and anything militating against that threatens the tenets supporting freedom.

We may agree with Pasour that restrictions against environmental exploitation inhibit human freedom. Nevertheless, this can be challenged from a utilitarian point of view. An Individual's freedom is not as important as national freedom. We disagree with his conclusion that the present generation would therefore be at full liberty to exploit the environment anyhowly to suit its needs. This is unethical on two grounds. If everyone does as he wishes, some will suffer while others will gain. This is evident in the existing categories of the poor and rich nations. While the rich countries continue being richer, the poor are getting poorer.

Secondly, conspicuous consumption may be detrimental to the generations to come. With the existing lifestyles of the present generation, like the ones Pasour advocates, which are dictated by self interest, it means that the resource base will continue getting depleted. The generations to come may not have enough resources left to meet their needs and this is immoral.

K. S. Schrader-Frechette (1993:157) rightly observes that "unless resource consumption is limited in the future, planetary environmental and political crisis will result." This is in agreement with Massachusetts Institute of Technology's report (ibid) that if something is not done to control our present consumption patterns, the future generations will encounter a catastrophe where they will suffer as a result of our irresponsibility.

The duty to limit consumption has another ethical dimension. At the moment, we have observed that the global resources are enjoyed disproportionally between the industrialised and poor nations. Such a limitation may help to achieve some level of equity between the two. The rich nations therefore have an obligation to alleviate the poverty of the poor ones. It is imperative that a strategy is needed to cope with the existing affluence of the developed societies and the widespread poverty in developing countries. As members of one family, we should have obligations to each other as a basis of obligations to our successors.

If we want to bequeath future generations the life chances we ourselves enjoy, doing as we please may no longer be an option. Realistically, it is not easy to modify lifestyles without undue sacrifices. As a result, we are suggesting that this problem notwithstanding, we should try to come up with some innovative solutions to limiting

consumption.

One such solution is promoting the purchase of services and not products. An example is that rather than people using personal vehicles, they should commute by public transport. While this may compromise some individual comfort, it will save the environment from the levels of pollution that are worsening daily. It will also save substantially on fossil fuels. Governments should work out plans of improving the public transport sector. In Kenya, for example, the public transport industry is confronted by a poor road infrastructure that is coupled by poor management. Plans should be worked out to ensure that the public transport sector is readily available and efficiently run. Other considerations should include subsidising fuel taxes on the operators of public transport while at the same time increasing fuel taxes to individuals owning private vehicles.

Secondly, governments should provide credible information about the environmental problems being felt on global scales. Such information will help create an international awareness that will be critical in changing consumer behaviour. People will for example see the dangers posed by plastics and will consequently act to avoid them.

6.5 A Contribution from the Past

As we have already pointed out, the looming environmental crisis can probably be averted through sustainable development that lays strong emphasis on why human beings need to be in harmony with the environment. We have also stated that there is a necessity to re-integrate ourselves into a world in which the links between the past, the present, and the future are taken into consideration.

The weight of the first argument seems to contradict the second one. Economic development is seen as one of the vehicles through which our environment has been degraded. How will such development be tamed to be compatible with environmental exploitation? The answer is that the past may have guidelines as to how development and environmentalism can be reconciled.

Following this argument, Oruka (1997:269) argues that:

> "one of the major issues in the current global concern with the protection of the environment and sustainable development is the issue of indigenous knowledge (1K) or as others prefer to express it, indigenous knowledge systems, (IKS)."

Indigenous knowledge is the localised knowledge unique to particular societies or ethnic groups. Indigenous knowledge systems refer to the knowledge that the indigenous people used to solve some of their problems. We can cite examples like the Dogon cosmology, the Akan traditional knowledge, the American Indian history and so on. The reason of going back to these indigenous knowledge systems is that they may still have some relevance to solving some of the present predicaments.

Subsequent to the **Rio Summit on Environment and Development** (1992), more inspirations for the study of these indigenous knowledge systems were encouraged through the Agenda 21. We have pointed out that the present actions towards the environment stem from our attitudes towards the same. It may be for this reason that the summit realised that the present generation should borrow ideas from past experiences. Perhaps there was the realisation that science and technology, if not tamed in good time

will lead human beings to their destruction while they pursue economic development.

That would not be enough reason to retrogress to the indigenous knowledge systems. In the past, science and technology which was in place was very rudimentary as compared to the one used today. The population was too low such that it did not have much pressure on the environment as it is doing today. What contribution then would this traditional perspective have on our contemporary situation?

D. M. Dusty Gruver in Oruka (ed.) (1994) gives a traditional Hawaiian view of a family. He points out that in the Hawaiian culture, there was a responsibility to sustain patterns of reciprocal caring for the welfare of all. It was the case that the good of one person was inextricably bound to the good of the entire society. A family was therefore seen as a "web of ties" between all members of the society.

The Hawaiian concept of a family was further extended to cover the environment and all that it carried. Resources like land, animals and plants were therefore related to human beings. According to Gruver (ibid: 304), the moral imperative of the Hawaiians "to care for and respect each members of one's family was continuous with concern for the well-being of the earth." Consequently a person was by no standard expected to act in a manner that brought harm to the resources of the earth. Nature was treated with awe and respect since, as Gruver rightly observes, to mistreat any aspect of the environment was viewed as a mistreatment of the self.

A similar account is given by S. S. Rama Pappu in Oruka (ed.) (1994). Pappu outlines the issues on which discussions in environmental ethics in recent western philosophy rests. He points out that in the West, the main questions asked are whether ethics is purely human centred and/or anthropocentric, whether its scope includes all

sentient creatures and whether it is ecocentric.

While attempting to provide answers to these ethical issues from a traditional Indian perspective, Pappu argues that human beings and the environment were organically related to each other. Environmental ethics was not anthropocentric but nature-centred. There was a harmonious co-existence between human beings and the environment. As a result of this co-existence, all life in the universe was sacred and the ethical relationship between all sentient beings was supposed to be that of equality. Natural objects like rivers, trees, mountains, and the land were all seen as having value in themselves and were therefore treated with respect.

A more remarkable account about co-existence of Indians with the environment is given by Louis S. Warren in Flores (ed.) (1996). Warren accounts for the harmony that existed between the American Indians and the environment some centuries ago. He observes that like all human beings, the American Indians were no exception to the rule that they had to exploit the environment so as to eke a living from it. In fact, they used the land and changed it. They did not shrink from the challenge of adapting their lifestyles to the environment.

It is the way that they wove their old traditions into new environmental conditions that is striking. Warren (ibid: 18) notes that "Indians relied on mixtures of subsistence activities to make a living from the land, but they differed markedly in emphasis." Thus, some of them were farmers while others were hunters who spent most of their times in the forests. Farming involved seasonal and shifting cultivation. As we have earlier stated, the Indians therefore did not live without exploiting the environment. Claiming that they did so would be akin to saying that they lived without touching nature which is not only

impractical but also absurd.

What is worth noting was the Indian spiritual dimension towards the environment. Mark W. T. Harvey in Flores (ibid) points out that the Indian religious practices generally emphasised a spiritual dimension to the natural world. Warren (ibid: 19) aptly puts it that the Indians

> "relied on rich, complex belief systems to make sense of the natural world and their cosmology stressed dependence on gracious spirits, who often appeared in the form of animals, to bring game to the hunters, crops to the farmers and salmons to the rivers."

The core of the above argument rests on the fact that most Indians exhibited some sort of reluctance to take sole credit for shaping the ecosystems. Rather, they deferred to the spirits as the true caretakers of the land. The notion that human beings are the centre of everything was very much disregarded.

Warren illustrates the above fact by pointing out that even after the introduction of animal technologies in the 18th and 19th centuries, the Indians were able to adapt to these new conditions. While improving their yields using the new farming technique, they did not jeopardise their natural environment.

6.6 Lessons from the Indigenous Knowledge Systems

It is true that practically, it is impossible for the present generation to go back to all the lessons from the traditional perspective detailed above. This is because the relationship between human beings and the environment has been changed so repeatedly

by the evolving ideas of science and technology.

We cannot blame science and technology solely as the cause of environmental degradation. Evolution of ideas science and technology has brought about have arisen out of necessity. New improved methods of agricultural production, for example, had to be sought to increase yields, the necessity being the increasing global population that has to be fed. This means that as time progresses, even more sophisticated technologies might necessarily be put in place if the problem of world hunger will be fully addressed.

Nevertheless, there are lessons that can be learnt from these traditional experiences. Some centuries back, human beings took from the environment only what they needed. This has already been shown from the traditional American Indian perspective. As a result, the environment was usually in a state of equilibrium. Human beings and the environment were in partnership and therefore human beings could readily recognise their interconnectedness and interdependence with nature. They used the resources sustainably.

Due to this harmonious co-existence, generation after generation thrived until the emergence of industrial revolution in Europe when environmental damage started worsening. As a result of an urge to develop, the land was put at the disposal of industrialists; soil was contaminated while air and water resources were polluted. The damage went unchecked for decades and this is the condition the present generation finds itself in today. Only recently did people begin to realise the serious consequences of such damage. They have now noted that the environmental pendulum has been swinging from equilibrium to the far left.

It is for the above reason that the present generation should recognise the fact that

its current environmental problem is multi-faceted and touches on every aspect of its lives, and this by extension, is a threat to the future generations. The question is whether sustainable development, if adhered to, can reverse this situation. It appears as if the present generation views the world as a mechanical system at the disposal of human beings. This has led to the false belief in unlimited material progress to be achieved through economic and technological growth.

There is a lesson that the present generation can learn from the Hawaiian concept of the family. It is true that it has to pursue economic and material growth. However, it is not necessarily at the expense of the interests of the future generations. The present generation should thrive with the environment as a member of its family such that it exploits the environment while at the same time caring for it. If we take an example of forests, the present generation can ably use them while planting more of them such that people in future generations will also benefit from such efforts.

Secondly, the Hawaiians and the American Indians insisted on relationships of co-operation between human beings and their environment. They rejected all forms of unwise environmental exploitation. This points to the current predicament. The present generation endeavours to achieve economic progress the fastest way possible. As a result, agricultural activities, for example, have been compromised today at the expense of industrialisation particularly in many developing countries. This economic progress will only be short-term if it will not encompass a long-term vision of sustainability simply because it will exhaust resources.

This problem is coupled with spiritual emptiness of the present generation. Spretnak and Capra (1996) argue that due to this spiritual impoverishment, the relationships

between members of the present generation have been very elusive. Due to their short-term economic pursuits, they fail to recognise the needs of others. They fail to recognise their obligations to their neighbours. They forget the plight of the poor, the sick, the hungry and so on. If the present generation's responsibility does not start with the concern of its contemporaries, it would be morally absurd to even think of its obligations to the future generations. As the English proverb goes, "charity begins at home" and this indicates that we should deal with the problems of the present generation first as a stepping stone to those of the future ones. After all, the existence of the present generation is a necessary condition for the existence of future generations.

As Spretnak and Capra (ibid: 24) further point out, we should not be obsessed with sheer economic growth. We need to change and 'if change is desirable, it may not just be important to bring about the material change but also the cultural and spiritual change." Such change will demand the revision of most of ideas and values of the present generation. This calls for profound transformation of present attitudes towards the interests of the succeeding generations. It is a lesson of why we should be morally responsible to the welfare of the future generations.

CHAPER SEVEN

CONCLUSION

In the foregoing chapters, we have seen that environmental problems emerge as a result of human and technological changes. Our concern, however, was the far-reaching effects these changes could occasion for succeeding generations.

The present generation is too aware of some of the probable negative consequences of their actions to the future generations. That for instance, the "I-don't-care" exploitation of the environment, while meeting their present needs may have adverse effects on the environment in the long run. Apparently the present generation is willing to concede the negative spill-over effects of an unfriendly environment on the future generations.

Following the above argument, we have argued that unwise environmental exploitation is immoral since it may infringe on the rights of the future generations (which as we have argued elsewhere, they are entitled to hold). Nevertheless, we have also pointed out that there is a problem of whose needs to address first. The question is whether we should value the interests of the future generations at the expense of our very needs. We have tried to resolve this issue by the argument that our obligations to future generations have meaning only in the context of existence of present generation. As a result, the needs of the present generation precede those of the future generations.

We add the phrase of future generations as right-holders advisedly. This is because as we extensively argued in chapter four, there is a problem of whose needs and interests to address first. In other words, there may be some hypocrisy if the present

generation will value the future generations at its own expense. This argument does not give the present generation a free hand to do as it pleases with the environment. While the currently existing people should derive their economic sustenance from the resources endowed in the environment, they should as a matter of moral concern, remember to monitor the impact of their actions to the continued and future use of the environment by succeeding generations.

Given, for example. that the present generation knows the consequences of indiscriminate clearing of forests, it would be grossly unethical for its members to continue with this trend. An acceptable moral/ethical position for the present generation should not only be to recognise how depleted the environment is but also to move beyond this by avoiding any further actions that would throw the future use of the environment in jeopardy.

It would be immoral for the present generation to hide behind the ostrich syndrome and then continue using the environment unwisely. While the present generation can readily recognise that the consequences of some of its actions in the last few years have contributed to some of its actions in the last few years have contributed to some of the problems encountered today, it ought to act to avoid such eventualities occurring in the future.

The present generation ought to accept a responsibility based on a sense of community with the future generations. We discussed the concept of community in chapter four and further explained the same from the perspectives of a family in chapter six. What we are therefore urging of the present generation is not beyond its means since it currently has some sets of opportunities on how it can use the environment sustainably.

These opportunities should not be interpreted to mean that they are only confined to the present generation. They should be extended to fit John Bawls observation in **A Theory of Justice** (1971) where a sense of fairness is extended to the future generations. As a result of irresponsibility of the present generation today, the future generations ought not to face a reduced range of opportunities as they try to adapt to the environment that they would have inherited.

The above confirms our earlier assertion that the needs of the present generation take precedence over those of the future generations. If there will be opportunities in the future, their foundations are in the present. While the present generation has an obligation to ensure a habitable environment for the succeeding generations, it should first attempt to eradicate the problems hampering its well-being. Some members of the present generation are faced with disease, hunger and poverty and this diminishes future opportunities. If the needs of the present generation precede those of future generations, then **Lifeboat ethics** (Garret Hardin: 1974) is misplaced. While Hardin seems to advocate for continued suffering of some members of the present generation particularly in the developing countries, he overlooks the fact that the developed nations are holding the rest of the world at ransom. First, they use a disproportionate share of the planet's resources which in itself is bad, and second, arising from the first, they are more responsible for the worsening environmental degradation. Both of these problems are not only detrimental to the present generation, but might also cause harm to the future generations, all of which is immoral.

The problems of the present generation might be the same problems of the future generations. Thus, while we concur with R.T. De George in Sterba (1984) that we have obligations to our contemporaries, we disagree with his other notion that we do not owe anything to the future. The future, as we have already seen, makes sense only in the context of the present. Its destiny is therefore squarely placed on the present generation and this is the reason why we are obliged to act responsibly for its sake. In any case, granted that the succeeding generations are right holders, then it would be unjust to act in any way which will infringe on their rights to a habitable environment.

It is from the foregoing arguments that the paradox of environmental exploitation becomes more rife. The contentious issue is how we can possibly use the environment to meet our needs while protecting and improving the same for the present generation. Whether it will be possible for the present generation to utilise the environment while conserving it for the succeeding generations is the issue.

While utilisation and conservation seem to contradict each other, we have argued that the interests of the present and future generations can be incorporated through sustainable development. By sustainable development, we mean development that is likely to achieve lasting satisfaction of human needs and improvement of the quality of human life.

This argument shows that it will be inevitable to use the environment. However, the issue that ought to be addressed is how we will use it. Recently, it has been observed that science and technology are the principle vehicles of environmental degradation. Yet, development demands that science and technology are employed. Humankind has evolved hand in hand with science and technology and it is in fact human beings who

create it and use it.

Science and technology, while apparently being the most dangerous enemies of the future generations, may be a misplaced fear. Science and technology is a manifestation and a representation of human knowledge. However, scientific and technological knowledge tends to grow ahead of wisdom and moral virtue. It is for this reason that the present generation ought to acquire the necessary wisdom to maintain and enhance its ability to ensure that scientific and technological knowledge is compatible with the environment for its own benefit and that of the future generations.

The present generation, however, does not seem to have acquired the necessary wisdom. Scientists and technologists, for example, develop nuclear energy that can be used to supplement power sources in industries hence saving some of the resources like oil for the future generations. However, politicians abuse these advancements, in their self-interest pursuits, to develop nuclear weapons. Such weapons pose a real threat to the environment, present as well as succeeding generations.

The bottom line of the above example is that the discoveries of scientists are more often than not well intentioned. As we have argued earlier, such discoveries are meant for satisfying the needs of the present generation such that the needs of the succeeding generations are met in the long run. The discoveries of many great scientists have helped the past as well as present generations in various ways. They may also help the future generations. This does not mean that some of these discoveries have not been detrimental to some people particularly in the past generations.

The implication of this observation is that the future generations are at a risk from some of discoveries of the present generation. While it may be desirable and in the best

interest of future generations to make more discoveries, the present generation should realise that the generations to come have the right to an environment which does not impair their rights. This means that the scientific and technological knowledge in future ought to be compatible with the needs and interests of the future generations. The freedom of the present generation to use science and technology in regard to the environment ought to be qualified by the needs of succeeding generations.

While science and technology will solve some of the development problems as we have observed, there are others that it may not. We have discussed the spiritual impoverishment of the present generation. As a result of this spiritual emptiness, some affluent members of the present generation are not ready to take responsibility for the environment for the sake of their contemporaries, let alone for the sake of future generations.

At present, there are multiple worlds, which contravenes the age-held belief that there is only one human family on the planet. In reality, we ought to have one such family but practically, this family has been divided into a community of the poor and the rich, the developed and the developing and so on. Our argument is that this has resulted from the attitudes of the present generation to the future ones and which should be addressed to create global harmony.

Consequent to this problem, some members of the present generation are in absolute poverty. They are malnourished, sickly and dying while some of their contemporaries have more than enough. This is a case that can be resolved. If we are members of one family, the affluent have a moral duty to share what they have with the poor as a matter of justice. But as Rinpoche observes in McFague (1994), "selfishness

and lack of compassion are the root causes of every form of violence, and such irrationality is responsible for the degeneration of the inner ecosystem, which smothers the outer environment and its ecological balance."

It is in the future generations' best interest for the present generation to leave them an environment which, when they actually exist, will meet at least some of their needs. As we pointed out earlier, (cf. Golding: 1972) there are some scholars who believe that since we do not know what will he the 'good' for the future generations, we do not have a direct responsibility to them.

We cannot certainly say that we know all the things that the future generations will need. In the past, coal was extensively used for fuel but thanks to the discovery of oil, it is no longer in a very great demand. The same may happen to oil in the future and it may be replaced by nuclear or solar energy.

This is not the case for some other resources like land, water and air. Since creation, generation after generation has depended on these resources. Land has been used for agriculture as well as for sustaining the ecosystems. Clean water and air are two necessary conditions for human survival. It will be naive to think that the generations to come will be an exemption to this rule. We ought to appreciate the fact that they will also need these resources. The present generation therefore owes the future generation an obligation to plan and manage the resources from the environment.

It may be true that this has been attempted. This is evident through the numerous conferences, summits, charters, declaration and commissions which have taken place, and which we have discussed in preceding chapters, particularly in the last three decades. The problem is that the present generation, while very good in planning for the future, is

very poor in managing for the same. At a theoretical level, so many proposals have been made such that if they had been translated into action by now, our legacy for the succeeding generations would not be as bleak as it currently looks.

At the moment, we are aware of virtually all environmental problems that pose threats to the future generations. These problems include the near exhaustion of some renewable and non-renewable resources, indecent living standards of some members of the present generation, pollution and so on. Too much has been said about these problems particularly in the last fifty years. Ironically, it is over the same period that most of these problems have grown worse.

This indicates that environmental rhetorism has been more active than action. The clarion call is for the present generation to amend this trend. The present generation ought to make a radical shift from mere environmental rhetorism to action. It is a mission in futility to hold flamboyant conferences whose proposals, while very persuasive from an outset, are never implemented.

We are bound to encounter a difficulty with the above assertion. The problem is whether it is possible to change the attitudes of the present generation towards the environment. How will we change the consumption patterns of the affluent societies so that they will see some sense in saving some of their resources for their contemporaries as well as for future generations?

It may look impossible from the outset. However, this ideal can be achieved if the present generation can jointly work to resolve some of the prevailing problems. The problem of poverty can be fully addressed if the affluent societies can modify their consumerism. A change in their lifestyles will translate into innovative solutions to the

problems of the people in developing countries. This is because more resources will be saved without necessarily affecting the current quality of life of the people in developed nations. Their sacrifices will go a long way in alleviating poverty elsewhere. This will in turn be a blessing to some members of the future generations.

Secondly, the present generation ought to foster and indeed advance science and technology that will not have spill-over effects to the members of this generation as well as the succeeding ones. Science and technology used ought to be compatible with environmental concerns and to paraphrase Aldo Leopold's **Land ethic**, (1949) a discovery of science and technology will be termed good if it promotes the well being of the environment, the present and the future generations. Otherwise it will be bad.

Consequently, discoveries aimed at more agricultural production that do not compromise the lives of the present and future generations qualify as good. The same applies to discoveries improving the health standards of human beings and ecosystems. However, any technology that diminishes the survival prospects of the present generation, and by implication the future generations, ought to *be* restricted. The developed nations, as well as some developing countries like India and Pakistan, are currently engaged in an arms race. Behind the scenes are sick and malnourished human beings. There is need to divest from this type of technology since it neither promotes the human welfare nor the environmental health. If anything, nuclear arms can annihilate both the human life and the environmental resources. This would be a gross infringement of the rights of the future generations to a liveable environment. The present generation ought to be agitating for technology transfer. The capital used in these technological innovations ought to be diverted in fostering projects that will reduce poverty and hunger

for the present generation in global scales. Technology can be improved to increase the efficiency of agriculture in the developing countries. This may be through provision of better infrastructure and better methods of irrigation and land conservation. Such ventures will be in the best interest of members of this generation as well as the future ones.

Thirdly, we have argued at length that the environmental problems have in a way resulted from ignorance, indifference and self-interest, which we have summed up as a problem of attitudes. This problem manifests itself differently depending on whether we are addressing the environmental problems of the developed nations or developing ones.

In the developing countries, the problems of ignorance have been more real. The population pressure has been blamed for the environmental problems in these countries. This is because of the fragile environment, which does not have enough resources to support the many people who are added to the existing population every year. Yet, when they are urged to check on their population increases, they view it as an inhibition to their freedom; the right to choose the number of children one should have. Thus, more pressure is added on the very few resources everyday and this further diminishes their quality of life. The trend, if unchecked, means that in future, there might not be enough resources to support any further increases in population. The population increase is not the problem *per se*. It is a problem of ignorance, which is made worse by poverty and inadequate technology. The population of Africa, for example, is less than that of Europe, yet the former has a bigger surface area.

The developed countries, on the other hand are more tied up to the problems of indifference and self interest. While they can see the suffering of the people in the developing countries, they choose to ignore them. In the spirit of **lifeboat ethics** (Hardin:

ibid), that if they start concentrating on such problems, they will sink into similar problems, they argue that they would be better off leaving the developing countries to sort out their problems first. This perhaps explains why the gap between the developing and the developed nations continue to widen.

It is not in all cases that the industrialised nations do not help. The developing countries have benefited from aid and grants from the developed nations. The problem is that there has been a great insincerity in giving these grants. There are many strings attached to the monetary help the developing countries get. Yet, when the developing countries receive such 'assistance', they invest it on projects that are detrimental to the environment of the present as well as succeeding generations. Evident to this is the Indo-Pakistan nuclear technology in the midst of hungry, sick and dying people. This coupled by the debt trap from the Breton Wood institutions; the World Bank and the International Monetary Fund (IMF), in which most developing countries find themselves, further complicates the environmental problems.

The reason for the above argument is that as the developing countries attempt to service some of their debts, they end up exploiting most of their resources. For example, they exploit their agricultural lands in an attempt to increase the production of cash crops that advisedly can be sold to reduce the debt burden. They allow multinational corporations, through contracts, to dump their toxic wastes in their countries. This is a clear illustration of the present trend of anthropocentrism. The developed countries want to safeguard their interests; the interest being a clean environment and as a result, they look for alternatives grounds where they can dump what is potentially lethal to their existence now and in the future. This does not exclude the developing nations from the

pursuit of self interest though, in our view, their pursuit is what we may call circumstantial self-interest. No one would like to live in a polluted environment but circumstances may force one to. Consequently, it may be for this reason that some countries like Guinea-Bissau could readily sign contracts allowing some foreign companies to dump industrial wastes in their lands, while they readily knew the impact of such wastes to the present as well as to future generations.

Whether the self-interest emanates from marked indifference to others as exhibited by the developed countries or from looming circumstances as manifested in developing countries, none of them is excusable. When such actions are viewed from the utilitarian point of view that an action is good if it brings happiness to the greatest number of people, we should note that both in the short and long term, they would not qualify as good. This has been argued in the context of the few beneficiaries of such actions to the many losers of the same. More members of the present generation, particularly in the developing countries stand to loose from such ventures. This implies that even more members of the future generations may have a similar fate that would have been passed to them.

The same applies to contractarianism. If the present generation is bound by a contract to safeguard the interests of the future generations, then, it means that it would be immoral to pursue only what benefits the present generation. This is because if the present generation does not spare enough resources to meet adequately the needs and interests of the succeeding generations, it means that we would have broken our contracts, which would be irresponsible and hence immoral.

It is on the basis of these arguments that we can argue that the obligations to the future generations ought to be enhanced. This can possibly be realised through concerted efforts of the present generation. At an international level, the affluent have an obligation to ensure that the needs of the poor of this generation are met. This can be achieved through a responsibility to alleviate poverty and other related environmental problems. The developed nations have an obligation to ensure that all the problems such as pollution, poor housing, hunger and so on which are prevalent in developing countries are minimised. This should also be the case at state and regional levels. Policies related to environmental exploitation ought to be compatible with the needs of both the present and future generations.

However, it is at the individual level, in our opinion, where obligations to the future generations would make more sense. If every individual were to focus on the probable future to the self, there would be a more focused trend on our present attitudes towards the environment. This drift in attitudes would affect the poor and the rich alike.

Thus, those engaged in innovations like nuclear technology, despite their affluence, would see the danger such technologies pose to the well being of their successors and the environment. The same would apply to the poor. They will realise the repercussions, for example, of having many children in the light of an environment that cannot adequately support their many needs.

This seems to contradict ecocentrism since individualism is viewed as more of anthropocentrism. However, it does not in the sense that it is at the individual level that one will see the probable dangers of exploiting the environment unwisely to the self. This self reflection will be a necessary requirement to value the environment as having a value

in itself. On these grounds, the present generation would see a sense in saving forests to regulate the weather, discarding technologies which may be detrimental to the future well-beings, and so on.

Whether the present generation will embrace ecocentrism subjectively or objectively is therefore not the issue. The issue is that they ought to embrace it so that they can assume their moral obligation to the future generations; the obligation to pass to them an environment which will ably meet their needs and which will not infringe on their many other rights.

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