

**Redeeming the Earth: Religion Healing the  
Environment**

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# Redeeming the Earth: Religion Healing the Environment

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**Dear readers**

***Redeeming the Earth: Religion Healing the Environment***

puts forth spirituality as an endeavor to contribute to the answer on the current problem of Environmental degradation. Environmental degradation is one of the ten threats officially cautioned by the High Level Threat Panel of the United Nations in December 2004 on its list of the most alarming phenomena for the entire world today.

It has always been acknowledged that controlling environmental degradation depends on the efforts of governments, scientists, businesses, industry, agriculture and environmental organizations. Such politico-socio-economic assertions and efforts cannot be disregarded. Few people however seem to regard the whole question of environmental degradation as religious or theological in its essential nature and possible remedies. Authors like Tim Dowley however are positing, and reasonably, that “God’s plan of redemption is not just for the human race but the whole created order... We now need to add on the list of social injustices...our sins against creation: the green house effect, the devastation of the world’s forests, the production of acid rain, the pollution of the seas, the exhaustion of finite resources and an unbridled biotechnology... Religion now must shift its care and concern from concentrating solely on the human soul alone to cater for the soul of the universe which too is under imminent threat of a destiny of damnation... [for] the cause of this crisis is essentially theological” (Tim Dowley, 1990, p 671-672). Dowley in this very place calls the exigency of the ecology-theology study as a church issue the obligatory ‘next page’ of church history.

Religion thus has an environmental contribution to make and its role must arouse interest. We have to use theological expertise, spirituality, our prayers, our scriptures, sacred song as well as religious instruction to address the issue of Environmental degradation. This book *Redeeming the Earth: Religion Healing the Environment* is out to show this.

All religions indeed have a contribution to make to this environmentalism. However a religious ecology is reasonable and mandatory especially for the Christian because the redemption of God for his creation goes to both man and also the entire universe (Rom 8:18-23). The Pontificate of Benedict XVI has thus declared pollution as a grave sin.

The book thus has a predominant coverage of Christian ecology. As a whole it has these particular contributions:

- Gives an over view of the current environmental crisis.
- Reiterates the ecology-theology relationship.
- Reinstates the politico-socio-economic causes and solutions to environmental degradation.
- Shows the extent of environmental degradation/conservation in Uganda.
- Advocates for, and proposes Christian avenues to curb eco-destruction (using Scripture, the sacraments, liturgy, prayers, the magisterial teachings etc)
- Gives ecological reflections from non-Christian religions.
- Underscores the ecological/environmental value of silence.

The book, a lot based on existing eco-theological research and without any claims to pre-eminence in the field, has concrete practical proposals and so can serve as a manual on Environmental conservation by the religious person. It can in the same way supplement also the environmental efforts of governments, scientists, businesses, industry, agriculture and Nature Conservation organizations especially in the current campaign for ‘Sustainable Development’.

## **The Author**

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## **CHAPTER ONE**

### **1.0 CORE INFORMATION ON ECOLOGY**

## 1.1 INTRODUCTION: THE ECOLOGICAL CRISIS

Not many people seem to be aware of the Ecological crisis: that all life on earth depends on the natural environment around us yet the quality of this natural environment is being ruined every day and especially by the reckless activities of man thus killing life in turn. The whole world is living with the threat of nuclear war, terrorism, an alarming food and fuel shortage as well as HIV/AIDS. However the worry of environmental degradation, global warming, desertification, extinction of plant and animal species, destruction of ecosystems and climate change might rank as the most acute pan world concern for our century.

Environmental degradation is one of the ten threats officially cautioned by the High Level Threat Panel of the United Nations in December 2004<sup>1</sup>. The World Resources Institute, the United Nations Environment Program, the United Nations Development Program and the World Bank have also made public an important report on health and the environment worldwide on 1<sup>st</sup> May 1998 demonstrating the severity that all life is exposed to by the harshness of the natural environment. Environmental sustainability is also one of the eight Millennium Development Goals of UNDP adopted by world leaders in the year 2000 and set to be achieved by 2015. The heightened response of the International Community to environmentalism is the most powerful indicator available to prove to all critics that environmental degradation is acute and so conservation is a matter of great urgency.

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1 The other threats are poverty, infectious diseases, inter-state war, civil war, genocide, weapons of mass destruction, terrorism, transnational organized crime and other high level atrocities. See [http://doc.wikipedia.org/wiki/Ten\\_Threats](http://doc.wikipedia.org/wiki/Ten_Threats).

Although there are natural causes of adverse changes in ecosystems, such as climate, evolution, continental drift, fires, floods and landslides, humans for the most part are said to be the chief protagonists (anthropogenic agency) and they seem to take the leading role in the devastation of the environment.<sup>2</sup> The World Conservation Monitoring Centre in its 2005 survey<sup>3</sup> on ecosystems affirmed that all natural environments and ecosystems now have an unprecedented problem to deal with, namely, humanity and that although humans appear to be squeezing into a few short centuries on our planet they are causing changes on a scale which would otherwise be expected over thousands or millions of years. Major human adverse impacts on the environment include the following:

### 1.1.1 Pollution,

Under this we can look at the following:

**Litter/Solid wastes:** Such as waste metals and tyres, refrigerators and cookers, cans, plastics and polythene, papers and used packing-material all rob attractiveness, breed disease vectors (for example cockroaches, rats and mosquitoes), pollute water also and if you should burn them as a way of eliminating them, it's paradoxical - the air too gets polluted.

**Air pollution:** It induces global warming, toxic to plants, animals and people, and damages property chemically. Among air pollutants emitted by natural sources, research shows that only

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2 See Saravanan K. et al.(2005).Principles of Environmental Science and Technology. New Age, New Delhi. It presents environmental hazards comparing the role of human agency to the non-human factors in the ecological crisis.

3 The survey was published in the 2005 Microsoft Encyclopedia in its article 'Ecosystems'.

the radioactive gas radon is recognized as a widespread major health threat, although gases and particles from volcanic eruptions can cause serious more localized problems. Otherwise the most prevalent and widely dispersed air pollutants are smoke and smog from automobile exhaustions, factory, furnace and internal combustion fumes.

**Water Pollution:** The major sources of water pollution are classified as municipal/ industrial, and agricultural. Municipal water pollution consists of wastewater from homes and commercial establishment. Agriculture, including commercial livestock and poultry farming is also a major source of many organic and inorganic pollutants in surface and groundwater. These contaminants include both sediments from the erosion of cropland and chemicals that partly originate in animal wastes and commercial fertilizers.

**Soil pollution:** This is the build-up in soil of persistent toxic compounds, chemicals, salts, radioactive materials, or disease-causing agents which have adverse effects on plant growth and animal health. Soil pollution results from artificial fertilization, pesticides-application, over cultivation, overgrazing and dumping.

**Radiation:** This is the emission of invisible electronic particles from electronic devices such as mobile phones, radar, telecom equipment, computers, television, X-ray machines, nuclear weapons, nuclear reactors discharge<sup>4</sup> and microwave ovens. Science has proved it causes cancer and also harmful changes in gonads (the reproductive cells). Radiation's biological effects occur when ionizing particles interact with living tissue by transferring energy

4 At Fukushima in Japan a 9.0 scale earthquake and tsunami on 11th April 2011 led to a colossal nuclear plants disaster.

to molecules of cellular matter. Cellular function may be temporarily or permanently impaired as a result of such interaction, or the cell may be destroyed permanently. Although large-scale studies organized by the International Agency for Research on Cancer (IARC) reported in January 2004 that the use of mobile phones does not increase the risk of brain cancer, at least during the first ten years of use, as the study continues it should reveal whether or not there are any increases in risks with mobile phone-use of more than ten years. Mobile phone use is on a very fast rate increase today.

**Acid rain:** This falls from atmospheres polluted with gaseous acids such as nitrogen oxide and sulphur-dioxide released from motor vehicles, factories and burning coal and oil. Acid rain pollutes water, erodes structures, kills plant life and destroys soil fertility. The problem of acid rain originated with the Industrial Revolution and it has been growing ever since especially in industrialized regions. Acid rain is actually an 'acidic deposition' and is corrosive in effect.

### **Others**

Then there are the more imperceptible elements of environmental pollution such as noise, radiation, acid rain as well as metals like mercury and lead. Mercury and lead are poisonous and are major causes of what are technically called Occupational or Environmental Diseases, that is, illness resulting from job-related exposures to chemicals in work places such as factories and mines.

Noise for example from planes, cars, buses, motorcycles, construction work, very loud music, noisy machinery, or even from mere shouting causes discomfort, auditory complications and high blood pressure. A report published by Stockholm Univer-

sity for the World Health Organization in 1995 stated that noise levels outside dwellings should not exceed 55 dB to protect the majority of people from being seriously annoyed, and that 50 dB should be considered the maximum desirable. These levels can be considered as ideal targets. Noise is measured in units called *decibels* (dB) and an ordinary whisper for example is rated at about 10 dB where as the typical rustling of leaves goes to about 20 dB (John G.Walker, 1995). We shall return to this issue in detail later in this book where we talk about how noise and silence are factored into ecology and environmentalism.

### **1.1.2. Habitat Destruction, Fragmentation and Conversion.**

The other direct impact of human activity on ecosystems is through destruction or conversion. Human activities in the environment affect habitats. Habitat refers to the space used by an organism, together with the other organisms with which it coexists and the elements of the physical environment which affect it. Clear-cutting (the cutting of all trees within a given forest area) for example, destroys a forest ecosystem. Selective logging may also alter forest ecosystems in important ways. Fragmentation—the division of a once continuous ecosystem into a number of smaller patches—may disrupt ecological processes so that the remaining areas can no longer function as they once did.

Although natural factors like climate change, fires, floods, and landslides all have catastrophic local impacts on ecosystems this impact according to Norman Mayers(2005) is not necessarily negative; many ecosystems actually require periodic disturbance (to maintain them).Myers instead shows that human activity plays the most crucial role in habitat conversion and destruction

through drainage of wetlands, conversion of shrub lands into grazing lands, cutting and clearing of forests, desertification, urbanization and suburbanization as well as highway and dam construction, all of which have seriously reduced available habitats.

### **1.1.3. Climate Change/Global Warming.**

It is now widely accepted that human activities are contributing much to global warming, chiefly through the excessive accumulation of greenhouse gases in the atmosphere<sup>5</sup>. The Microsoft Encarta Encyclopedia (2005) actually defines global warming as “a term denoting the accelerated warming of the earth’s surface due to anthropogenic (human activity) releases of greenhouse gases due to industrial activity and deforestation”. The definition emphasizes the human factor in the process of global warming. According to a global warming survey by Pearce climate change assessment is intricate and the mitigation policies required very complex but the impact of global warming is very likely to increase in the future( David Pearce, 2005).

Global warming would be a natural feature of the Earth for the process helps maintain the Earth’s energy balance. Moreover previously, its effects were mitigated as ecosystems could effectively migrate by moving latitudinally or by altitudinally as the climate changed. However today, so much of the world’s land surface has been appropriated by people that in many cases there is no such place for the remaining natural or semi-natural ecosystems to

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5 Green house gases refers to all the ‘gaseous’ elements over the earth’s atmosphere such as gases, clouds, vapor and smoke. Over the atmosphere and with solar radiation interplay, they create an effect of an ordinary green house, thus their name. To understand well the science of global warming/climate change, one has to understand this interaction between the sun’s radiation and the green house gases.

migrate to. Critics of the Kyoto Protocol<sup>6</sup> point to the very slow pace of ratification and to the fact that even if its<sup>7</sup> 2010 targets are met, very little happens to projected rates of global warming. The reason is that the developing countries' growth rates of emissions are very much higher than in the less developed world yet developing countries have refused to adopt emission reduction targets. A case in point came in early 2001 when President George W. Bush announced that the US would not implement the Kyoto Protocol. Russia also refused to ratify Kyoto, despite an initial enthusiasm to do so at the World Summit in Johannesburg in September 2002. If such big producers of greenhouse gases continue to refuse to cooperate, little will happen to change the rate of global warming (David Pearce, 2005).

Moreover research shows that development of new alternative technologies will be important to reduce carbon emissions. There is a real need for scientific research into technologies which reduce greenhouse gases through increased efficiencies and the search for alternatives. The idea of 'technological fixes' is seen by some as an escape from the reality of global warming. However it is said even if all carbon emissions stopped tomorrow, global warming would continue for the next 30 years<sup>8</sup>. James E. Rogers, a member of Copenhagen<sup>9</sup> Climate Council says it is a

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6 The 1997 first International agreement with greenhouse gas emission reduction targets that were supposed to be binding in international law.

7 The Kyoto Protocol sought a 5.2 per cent reduction in overall (carbon-equivalent) greenhouse gas emissions by about 2010 relative to 1990.

8 Source: "Nature's Remedy." *time*. <http://www.time.com/time/magazine/article/0,9171,1693750,00.html>. Retrieved 2011-05-16.

9 Copenhagen was the center of climate change negotiations in 2009. The conference was held in December and the treaty succeeding the Kyoto Protocol was expected to be adopted there. Topics discussed included carbon capture and storage, biofuels, adaptation financing, technology transfer, sustainable agriculture, emissions targets, tropical forests and rural and transport electrification. Critics generally didn't see much practical results and legally binding agreements at the summit in the direction of Carbon emissions reductions.



myth that we have the technologies to do the job. We don't. New technologies are crucial as is further development of existing technology<sup>10</sup>. Some media sources claim that protocol proceedings like Copenhagen 2009 will lead to empty promises without measurable goals. In a recent meeting of the Group of Eight (G8), the world top leaders agreed to halve carbon emissions by 2050, however, they did not set specific targets because they did not agree on a base year<sup>11</sup>.

#### 1.1.4. Introduced Species

A 2005 research report by Norman Meyers on the issue of introduction of species shows that human beings have been responsible either deliberately or accidentally for altering the distribution of a vast range of animal and plant species and this in turn has devastating effects on ecosystems. This includes not only domesticated animals and cultivated plants but pests such as rats, mice, and many insects and fungi. Species which become naturalized may have a devastating impact through predation and competition on natural ecosystems, particularly on islands where native species have evolved in isolation. For instance Meyers says, foxes, rabbits, cane toads, feral cats, and even buffaloes and camels have wreaked havoc in many ecosystems in Australia. He goes on to assert that plants such as the South American shrub Lantana have invaded natural forests in many tropical and subtropical islands causing major changes to these ecosystems and that the African water hyacinth *Eichhornia* has similarly disrupted freshwater ecosystems in many of the warmer parts of the world.

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10 Source: Copenhagen Climate Council.. Copenhagen Climate Council. <http://copenhagenclimatecouncil.com>. Retrieved 2011-05-16.

11 Source: G8 Summit Ends with Pledges on Food, Oil and the Climate.”. Deutsche Welle. 2011-05-16. <http://www.dw-world.de/dw/article/0,2144,3472192,00.html>. Retrieved 2011-05-16.

### **1.1.5. Over-Harvest.**

Excessive removal of animals and plants causes major destruction in ecology. The most important examples of this at present are over-fishing of the world's waters, deforestation and extermination of game. Norman Myers (2005) reports that it was estimated at one point in the 1980s that forest lands were being cleared or converted at a rate of 20 hectares (nearly 50 acres) a minute; and that another estimate put the rate at more than 200,000 sq km (78,000 sq mi) a year. He goes on to affirm in the above survey that in 1993 satellite data provided a rate of about 15,000 sq km (5,800 sq mi) a year in the Amazon Basin area alone. This tropical deforestation has already resulted in the extinction of as many as 750,000 species, and is likely to eliminate millions if allowed to continue unchecked.

This willful and indiscriminate destruction of wild flora and fauna has resulted into the endangering and extinction of especially rare animal and plant species on our planet. A United Nations Environment Programme (UNEP) report on the global environment published in May 2002 stated that over 11,000 species (including almost a quarter of all mammals) face extinction for every 30 years. In total more than 5,000 plants, 1,000 mammals, and 5,000 other animals (including one in eight birds) are endangered, mostly due to habitat destruction. According to Stephen Bass (2005) estimates for the annual rate of global deforestation at the end of the 20th century and the beginning of the 21st century vary from about 1.5 million hectares (3.7 million acres) to about 31 million hectares (78 million acres), an area larger than England, Ireland and Wales combined and annual deforestation is highest in Asia, the Pacific, Latin America, and Africa.

The renowned paleontologist Norman MacLeod's 2005 survey on world extinction levels however says that estimates on extinction are much lower than the extreme figures cited in much of the conservation literature. However he affirms that the figures are higher than most people unfamiliar with these data realize, and that what can be said with certainty is that human activities have begun to reach the point where they would be noticeable in a future fossil records.

### **1.1.6. Demands on Water.**

The world is also experiencing a steady decline in water quality and availability. Expanding human populations need water for irrigation systems, agriculture, domestic use and for industry. The erosion problems are aggravating a growing world water problem especially as regards its quality.

The International Consultant on Environment and Development Norman Myers in 2005 affirmed the following estimates on the water crisis, namely that: human beings already use 55 per cent of available freshwater run-off. This level of consumption Myers says will be an increasing problem as the population rises. Growing demand for water will bring agricultural, industrial, and urban use of water into conflict. This shortage the consultant continues to affirm will force water-usage restrictions and will increase the cost of water consumption. Mayers predicts, water could become the 'energy crisis' of the first decades of the 21st century for about 75 per cent of the world's rural population and 20 per cent of its urban population have no ready access to uncontaminated water. In many regions, the consultant continues to affirm, water supplies are contaminated with toxic chemicals and nitrates, and waterborne diseases debilitate one third of humanity and kills 10 million people a year(Norman Myers, 2005).

In conclusion we see that scientific research has surveyed the elements of the ecological crisis and the findings are just a rough picture of the whole ravage. This ravage is an attack on vital elements for life such as water and oxygen and so it is an issue of life and death. So then, humanity must recognize that in the ultimate analysis the attack on the environment threatens human survival.

## **1.2 ECOLOGY, POLITICS AND ECONOMIC DEVELOPMENT.**

The greater charge in the ecological crisis thus goes to humanity and concretely to the technological, economic and social individual as well as the community of Nations in general. The ecological campaign is thus necessarily done in correlation with research on politico-social, technological and economic development. The world has come to the realization that the problem at stake requires high level diplomatic, political, legal, economic, and social structural reforms and commitment.

The World Conservation Strategy of 1980 introduced and launched the concept of Sustainable Development as the emphasis of integrating environmental protection and conservation values into the development process (Barry Dalal Clayton, 2005). Sustainable Development is in fact commonly defined as ‘economic and social development that meets the needs of the current generation without undermining the ability of future generations to meet their own needs’. The definition<sup>12</sup> was produced in 1987 by the World Commission on Environment

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12 The absence of a clear definition had hither to allowed some to claim that they are practicing sustainable development, while essentially retaining their earlier approaches. Part of the problem also lay in the confusion that surrounds what is actually ‘sustained’ by ‘sustainable development’ (Barry Dalal Clayton, 2005).

and Development (WCED), otherwise known as the Brundtland Commission, after its Chairwoman, Gro Harlem Brundtland, Prime Minister of Norway.

Since the mid 1970s, sustainable development has emerged as the preferred way of dealing with the rapid degradation of the natural environment. The first global meeting on this issue, the UN Conference on the Human Environment sat in 1972, and focused mainly on environmental issues, such as pollution and waste, and all questions associated with industrial development and a rapid growth in consumption. The 1987 Brundtland World Commission paved the way for the first UN Conference on Environment and Development (UNCED), otherwise known as the Earth Summit, in Rio de Janeiro, Brazil, in 1992. This conference approved a set of five agreements:<sup>13</sup>

- 1). Agenda 21—a global plan of action for sustainable development in the 21<sup>st</sup> century, containing over 100 Programme areas, ranging from trade and environment, through agriculture and desertification, to capacity building and technology transfer.
- 2). The Rio Declaration on Environment and Development—a statement of 27 key principles to guide the integration of environment and development policies (including the polluter pays, prevention, and precautionary and participation principles).
- 3). The Statement of Principles on Forests—the first global consensus on the management, conservation, and sustainable development of the world's forests.

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13 Source: Microsoft Encarta Encyclopedia article, Climate Change, 2005.

4). The Framework Convention on Climate Change—a legally binding agreement to stabilize greenhouse gases in the atmosphere at levels that will not upset the global climate.

5). The Convention on Biological Diversity—a legally binding agreement to conserve the world’s genetic, species, and ecosystem diversity and share the benefits of its use in a fair and equitable way. Two important international conventions also were agreed upon at the conference—the Framework Convention on Climate Change, and the Convention on Biological Diversity.

The Kyoto Protocol emerged from the 1992 conference, and was the first agreement with greenhouse gas emission reduction targets that were supposed to be binding in international law. The Kyoto Protocol sought a 5.2 per cent reduction in overall (carbon-equivalent) greenhouse gas emissions by about 2010 relative to 1990.<sup>14</sup> In 2002 another convention, World Summit, held in Johannesburg, again sought agreement on environmental policies. Copenhagen was the center of the most recent climate change negotiations. The conference was held in December 2009, and the treaty succeeding the Kyoto Protocol was supposed to be adopted there.<sup>15</sup> Topics discussed included carbon capture and storage, biofuels, adaptation financing, technology transfer, sustainable agriculture, emissions targets, tropical forests and rural and transport electrification. The world is waiting to see concrete positive results from the summit.

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14 See [http://en.wikipedia.org/wiki/Kyoto\\_Protocol](http://en.wikipedia.org/wiki/Kyoto_Protocol) , for computation system of the reductions in emissions.

15 [www.panda.org/climate/treaty](http://www.panda.org/climate/treaty)

These multilateral conventions, commissions and the consequent protocols have brought to the fore the stark truth that environmental conservation is a focal point of the socio-economic development process. Environmental problems cross national boundaries, touch every sector of life and are simply so inclusive that they cannot be dealt with unilaterally. This pervasive and upbeat response of the International community to environmentalism indicates also the importance of the issue at stake, contrary to any critics that may look at environmental degradation and conservation not as a matter of great severity and urgency.

However despite the large number of international environmental treaties that now exist, critics say their effective implementation and enforcement remains a major challenge to the world community. The formal obligations contained in these environmental treaties have significant influence in improving international standards of behavior but they are less flexible and agreeable. Much greater use of soft laws and appeal to people's conscience in the form of guidelines, declarations, codes of ethical practice, and similar statements of principle seem to be another better alternative. The importance of involving non-governmental organizations in the process is thus also getting more increasingly recognized. Religions and environmental conservation voluntary groups can come in here and in the following chapters of this book we shall look at what religion can do in the campaign against environmental degradation.

### **1.3.0 A CASE FOR UGANDA**

We have so far treated the issue of environmentalism at large scale international levels, considering parameters as they interplay globally. But if we may ask, where is Uganda in all this? How severe is environmental degradation in Uganda? With statistics, what share of the blame do Ugandans take as regards environmental degradation? How severely affected are we? How much publicized are the issues of climate change for example? What statistics on environmental issues are available, accessible and can be interpreted by Ugandans? How critically involved are Ugandans, say at the civil, political, economic, religious, cultural levels? How are our domestic environmental concerns as a nation factored into the larger scheme of environmentalism the world over? What progress has been made right from the grass-roots up the top most structures of our nation as regards environmental campaigns? What more needs to be done for all sectors to participate effectively in the environmental campaign, particularly as my subject matter is, how is religion using its particular tools such as scripture, liturgy, prayer, the sacraments, its institutions et cetera for environmentalism?

#### **1.3.1 The State of the Environment in Uganda according to NEMA**

Below is an attempt to answer the above questions on the state of the environment, as reported in the NEMA State of the Environment Report, Uganda 2007/2008. It is the most recent such reporting from the National Environment Authority. It is apparently both profound and comprehensive a report in the treatment of the issue. We have therefore generously sourced it to supply key information on the state of environmentalism in Uganda.



However the question that remains is on the extent to which this information is spread to all stake holders and whether they can interpret it. One also wonders how much of the requisite implementation of policies and programs therein the report is done.

The report shows that the state of the environment at different levels provides a framework for national and sub-national integrated environment assessment and planning. Since the last State of the Environment issue, 2004 edition, this new report has to put into consideration the new opportunities and threats that have emerged and these include exploration and future production of oil, climate change, as well as innovations that encourage cleaner and more environmentally friendly sustainable consumption and production.

## **BACKGROUND TO THE STATE OF THE ENVIRONMENT IN UGANDA**

The report opens with a hint on the environmental leverage Uganda has as well as the key challenges. It discloses for example the news that Uganda is ready to market the economy from the environment. The report says that in 2005, the Government of Uganda injected US\$ 1 million in a campaign to promote the country's tourism potential on the Cable News Network (CNN). The 'Uganda: Gifted by Nature' promotion was the first ever media campaign to market the country's tourism abroad.

Once described by the former British prime minister Sir Winston Churchill Uganda is truly gifted by nature, for example, Uganda is the source of the River Nile, home to the second largest lake in the world, Lake Victoria. Seven of Africa's plant kingdoms are represented in Uganda which is more than any other country on

the continent, Uganda ranks among the top ten countries in the world in terms of the diversity of its mammal groups along with Rwanda and Democratic Republic of Congo.

The report boasts also that the country has the last remaining population of the great ape, the Mountain Gorilla. The report points out that since 2004 the number of administrative units in Uganda has increased from 56 Districts to 75 districts (by 2007) and this has led to an increase in the administrative costs for environment and natural resources management at local government and nationally. The report says the population in 2007 stands at 28.4 million an increase of 70 per cent since 1991 and 16 per cent since 2002 and it is expected to exceed 50 million and 127 million by 2025 and 2050 respectively.

## **ATMOSPHERIC RESOURCES**

On this the report reveals the following:

- ▶ The Intergovernmental Panel on Climate Change indicated, in 2006, that the African continent has the greatest risk to climate change. Uganda's atmospheric resources of temperature, rainfall, sunshine and wind show trends which suggest the possible influence of climate change.
- ▶ In 2005 for example, Uganda along with other countries in East Africa experienced a severe drought that led to a decline in the water levels of Lake Victoria. In 2007, Uganda experienced its heaviest rains since the el nino of 1997/98.

- ▶ Moreover, it is the poorest regions of the country that have been most affected; north eastern Uganda: the Karamoja region, Teso and Lango region.

## **TERRESTRIAL RESOURCES**

According to the report :

- ▶ Uganda has 7.2 million hectares of arable land under crop agriculture which is less than 50 per cent of the arable land (16.8 hectares). It has been suggested that available arable land for agriculture will run out in most parts of Uganda by around 2022.

- ▶ The land available in the eastern region is projected to run out faster by 2010. The rapid decline in land available land resource is attributed to the very high population growth rate. In addition the annual cropping practices that encourage high soil erosion and increased reclamation associated with new crop enterprises such as rice will also lead to the decline in the quality and quantity of the available land and soil resources.

- ▶ The indicative annual cost of setting up and running institutions required under Uganda's land bill is US\$ 400 million. This amount is so large that it could prevent an otherwise good law from being implemented because it imposes a huge financial burden on the government. Moreover, it is unlikely that the reforms as suggested in the law, will lead to significant increase in the supply of credits by commercial banks and agricultural productivity in the short term and medium term.

► Several studies have produced evidence showing a large decline in grasslands and land cover as a result of pastoralists' activities. Nearly 50 per cent of all grasslands in Nakasongola, a leading pastoral district, have disappeared since 1990 due to the activities of pastoralists in the district. As a result the amount of bare land has increased, further increasing pressure on the productive land available.

## FORESTS

On this the report says:

► Uganda's forest cover declined from about 5 million hectares in 1990 to 3.7 million hectares in 2005. This was a result of encroachment for agricultural production, deforestation to produce wood fuel, urbanization, industrial growth and problems of internally displaced people and migration.

► In Uganda, forest governance is split at three levels: NFA for Central forest reserves, District forest services for community and the privately owned and managed forests.

► There has been increasing pressure to degazette central forest reserves for industrial purposes from the central government. This has been a case for Namanve, Wabisi-Wajala (in Nakasongola district), Butamira forest reserve and more recently the intention to allocate part of Mabira central forest reserve to sugar cane growing.

- ▶ The rapid increase in Uganda's population has increased pressure on forest ecosystems for ecosystem services such as timber, fuel wood and food. This increases the risk of encroachment and deforestation unless viable alternatives are found.
- ▶ Opportunities for forest enterprises have emerged from commercial timber production, such as pines. The forest sector has one of the fastest rates of investment.

## **WILDLIFE**

Regarding wild life, the report has the following to say:

- ▶ In the National State of the Environment Report for 2004/05, this current NEMA report says it was noted that conservation and the resistance to conservation were the driving forces influencing the management and use of wildlife resource.
- ▶ Wildlife constitutes an important resource for Uganda as a source of food and material, recreation, tourism, nature study and scientific research and Uganda's wildlife occurs in both protected areas and outside protected areas.
- ▶ As of 1994, protected wildlife areas consisted of national parks, game reserves, controlled hunting areas and games sanctuaries. In all, there are 39 protected areas managed by the Uganda Wildlife Authority.
- ▶ Wildlife conservation was strengthened by the coming into force of the 1995 Uganda Constitution with

*Section 27 which specifically states, “the state shall create and develop parks and reserves to protect the biodiversity of Uganda”.*

► Wildlife is found both within protected areas (PAs) and outside protected areas. Within PAs the two classifications are Wildlife Reserves and National Parks (NP). The wild life management areas have three divisions and these are the Wildlife Sanctuaries, Wildlife Use Rights Areas, and Community Wildlife Areas (CWA).

► Although there has been a lot of effort both from international development partners and at the national level to ensure efficient management of wildlife reserves, many challenges remain. For example, high levels of poverty and population pressure have contributed to the encroachment of a number of National Parks and Wildlife Reserves.

► The Wildlife Act vests ownership of wildlife with the state but makes provision for people to own any wildlife that had been lawfully taken.

► Part VI of the Wildlife Act provides for six different categories of “use rights”. The assigning of use rights is intended to conserve wildlife through sustained extractive use. The different wildlife use rights are: class A wildlife use right for Hunting, class B wildlife use right for Farming, class C wildlife use right for Ranching, class D use right for Trading in wildlife and wildlife products, class E wildlife use right for using wild life for educational or scientific purpose including medical experiments and developments, and class F wildlife use right for General extraction.

- ▶ There are emerging opportunities in wildlife use/ rights. Research and a wildlife sector trade strategy have been developed in this regard.

## **AQUATIC RESOURCES**

### **The report says:**

- ▶ Uganda's wetland resources cover 13 per cent of the country's land surface. Increasingly, these wetlands are under pressure from reclamation for agriculture especially rice production.
- ▶ While no estimates exist as yet, several districts have reported an increased use of wetlands for rice production as a result of the current government campaign (upland rice growing) in Uganda. Although upland rice can be grown far away from wetlands communities have preferred growing it near or within wetlands.

## **WATER RESOURCES**

### **The report says:**

- ▶ Uganda's water resources cover about 16 per cent of the country's total area.
- ▶ The biggest pressure on the water resource is from the growing population and poor waste management practices of industries located near the water system.
- ▶ Uganda is on track to meeting the Millennium Development Goals for access to improved water within the country by the year 2015.

## **ON FISHERIES**

### **On fisheries the report says:**

- ▶ Fisheries activities provide an important source of livelihood to many Ugandans and foreign exchange to the country. Between 2002 and 2006 Uganda's fisheries export increased by value from US\$ 78.15 million to 142.69 million an 82.5 per cent increase.
- ▶ Fish catches increased from 249,000 metric tones in 2004 to 416,000 metric tones in 2005. Fifty per cent of Uganda's fish catches come from Lake Victoria followed by 16 per cent from Lake Kyoga and the remaining lakes and rivers contribute 26 per cent of fish catches.
- ▶ The major pressures on Uganda's fisheries resources come from the growth in international market demand for Nile Perch and tilapia, deterioration of water quality due to excessive pollution, re-invasion of the lakes by the water hyacinth, poor fishing practices and prevalence of diseases especially HIV/AIDS in the fishery communities.

## **ON BIODIVERSITY**

### **The report says:**

- ▶ Uganda is located in an area where seven of Africa's distinct biogeographic regions meet.
- ▶ Given Uganda's location in a zone between the ecological communities that are characteristic of the drier



East African Savannas and the more moist West African rain forests, combined with high altitude ranges, the country has a high level of biological diversity.

▶ Recent survey reports reveal the occurrence of 18,783 species although the country covers just 24, 551 square km and accounts for only 0.18 per cent of the world's terrestrial and freshwater surface.

▶ The principle threats to biodiversity in Uganda continue, and they include habitat loss, modification and alteration along with unsustainable harvesting, pollution and introduction of alien species.

## **RURAL WATER SUPPLY AND SANITATION**

### **The report notes:**

▶ Access to safe water supplies in rural areas has increased steadily. Between 2004/2005, 2005/2006 it increased from 57 per cent to 61 per cent.

▶ Latrine coverage has increased from 51 per cent in 2003/2004 to 58 per cent in 2005/6. This level of latrine coverage is still very low. The lowest coverage was found in the Karamoja region from 2 per cent to 10 per cent.

▶ In the districts where the funding for sanitation programmes and enforcement of bi-laws were weak latrine coverage declined for example Busia and Kibale district declined by 2 per cent and 5 per cent respectively. Seventy-five per cent of Uganda's disease burden is preventable

since it is caused primarily by poor hygiene and inadequate sanitation.

## **TOURISM**

On tourism, an industry based much on environmental products, the report says there has been an increase in the number of tourists arrivals since 1997 from 175, 000 to 468,000 in 2005. The arrivals were mostly from Kenya, Tanzania and Rwanda. Europe contributed 10 percent, mostly from the United Kingdom and German, and a good number from USA.

It further says the industry plays an important economic role for Uganda and the world tourism council predicated that Uganda would generate US\$ 840 million in 2005. At the same time tourism accounted for 9.2 percent of GDP and was envisaged to generate 42,000 jobs.

## **ENERGY**

### **The report says:**

- ▶ Uganda has an abundant although unexploited variety of potential energy sources from solar, biomass, hydro, petroleum and geothermal.
  
- ▶ The energy sources that have been exploited so far include biomass, petroleum and hydro power. The national consumption of energy sources by type is 93 per cent, 6 per cent and 1 percent for bio-mass, petroleum and hydro power respectively. Only 5 per cent of Uganda's population has access to electricity, that is 293,000 households out of 5.5 million households.

- ▶ Two-thirds of the power generated in Uganda is consumed in residences, 14 per cent in commercial buildings, and 10 per cent in industry and the remainder in the transport sector.
- ▶ Biomass comprises of firewood, charcoal and agricultural residues and it constitutes 93 per cent of total energy consumed in the country. Wood fuel (firewood and charcoal) is the biggest source of energy for residential households. Per capita firewood consumption is 680 kg per year.
- ▶ Petroleum is the main source of non renewable source of energy used in Uganda. Sales of petroleum products increased from 646,839 cubic meters in 2004 to 681,249 cubic meters in 2005 representing a 5.3 per cent increase. Diesel was the biggest product consumed at 49.3 per cent, followed by gasoline/ petrol at 24.6 per cent, aviation fuel at 12.7 per cent, fuel oil at 7.3 per cent and Kerosene at 5.4 per cent.
- ▶ Uganda's electricity production increased to 1,896 GigaWatt hours in 2004 from 1,757 GWh in 2005. In 2004 Uganda's nominal generation capacity was 303 MW and peak demand of 265 MW of capacity. By May 2005 the prolonged drought in East Africa reduced Uganda's MW capacity. The resulting shortage of power led to load shedding and higher costs. The government has since intervened through supporting the private sector interventions such as the diesel fed power generation at Lugogo with the capacity of 50 MW .

In May 2006, a consortium affiliated with the Aga Khan Development work signed an agreement to build the Buj-jagali hydro power station. The project is valued at US\$ 500 million and it has already started. There are two other electricity co-generation projects one at Kakira sugar co-operation and SCOUT and 15 other mini-hydro stations.

## **CULTURAL HERITAGE**

The report says about 357 sites and monuments have been identified and documented as part of Uganda's cultural heritage. The areas included in the world heritage list are the Kasubi tombs ( a man made/non natural environmental component), Bwindi national park and Rwenzori Mountain and national park. However, Uganda has several other cultural heritage sites found in all regions of the country some of which have been documented.

## **POVERTY AND THE ENVIRONMENT LINKAGES**

There is a great correlation between the challenge of elimination of poverty and the reversal of environmental degradation.

- ▶ Income derived from the environment is a major constitutive element of the livelihood of the poor and this direct dependency on nature does not appear to be decreasing.
  
- ▶ The most frequently mentioned causes of poverty in Uganda are: poor health, limited access or shortage of land, lack of market access for produce, unemployment, high taxes, lack of education, large family size, excessive alcohol consumption, and low productivity and lack of credit facilities. All these have a direct correlation with the health of the natural environment.

- ▶ Crops are the most dominant source of rural household income contributing 70 per cent of rural income, followed by non-farm activities with 25 per cent, and livestock contributing 5 per cent. Livestock is increasingly becoming a major asset and a source of income for the rural households especially in central and southwestern Uganda. Between 2001 and 2005 livelihood contributed 13 per cent of total agricultural GDP. Fisheries have created livelihoods for over 1.5 million people and direct employment for 350,000 people.

## **ON LAND USE**

The report says a typical farm size in Uganda in 2005 ranged from 0.5 and 1 hectare as compared to an average of 0.75 to 1.5 hectares of land. The reasons for the landlessness include: lack of proper land regulations and effective land management structures which encourages corruption, poor land planning and conflicts. In Kibale and Nakasongola districts for example, the large number of absent land lords has meant that few indigenous people have access to a strong ownership of land.

## **ON ENVIRONMENTAL HEALTH PROBLEMS**

**The report says that of these:**

- ▶ Malaria is the most prevalent illness in Uganda with 51 per cent of outpatients cases reported between 2002 and 2005. In 2004, the estimated annual number of deaths from malaria was 70,000 -100,000 people.
- ▶ Diarrheal is the major killer of young children in

Uganda and it alone is responsible for 19 per cent of all infant mortality rates in Uganda. However cholera cases and fatality rate declined from 6 per cent in 2000-2001 to 2.5 per cent in 2004-2005 although WHO recommends that cholera cases and fatality rate should be below 1 per cent.

▶ National adult HIV prevalence was 6.7 per cent in 2005 significantly higher among women nearly at 8 per cent than among men at 5 per cent. While HIV /AIDS epidemic cases declined all over the country, prevalence ranges in some rural areas from as low as 5.6 per cent in men and 6.9 per cent in women to 6.5 per cent in men and 8.8 per cent in women in 2004.

## **ABOUT PAYMENTS FOR ECOSYSTEM SERVICES (PES)**

Payments for ecosystem services (PES) represent a set of new financing mechanism for funding conservation activities.

▶ Existing opportunities for PES include: payments for water shade services, payments for bio-diversity services e.g. organic agriculture, payments for carbon cycle sequestration services and payments for reuse of waste.

▶ Among the barriers to implementing PES in Uganda are: lack of adequate information for businesses and government, technical barriers to put in place adequate policy evaluation and acceptance, and absence of policy and inadequate institutional capacity to organise PES activities.

## FUTURE OUTLOOK

This issue of the National State of the Environment Report (NSOER 2006/2007) considered four possible scenarios or operational frameworks derived from UNEP's African Environment Outlook (AEO) and they are: the *Market forces* scenario, the *Policy reform* scenario, the *Fortress world* scenario, and the *Great transition* scenario.

**i).** The *market forces* scenario characterizes an outward look of the government aimed at boosting economic development through private sector investments.

Foreign and internal direct investments lead to increased foreign exchange earnings and employment. Uganda is in the final stages of developing its position on the Economic Partnership Agreement (EPA) under the Cotonou Agreement<sup>16</sup>. Whatever is agreed upon in the EPA will determine Uganda's terms of trade with Europe for the next foreseeable future. Uganda is concluding the process of developing the national trade policy, where the leading sources of foreign exchange earnings include agriculture and tourism.

**ii).** The *policy reform* scenario covers the breadth of institutional and policy reforms in the management of natural resources in Uganda. The Poverty Eradication Action Plan consists of programmes such as the Plan for Modernization of Agriculture (PMA), the Northern Uganda Social Action Fund (NUSAF), the Karamoja Programme, and the National Agricultural Advisory Services (NAADS),

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16 The June 2000 ACP Group (African, Caribbean, and Pacific Group of States) and the European Union partnership agreement signed in Cotonou, Benin, (the Cotonou Agreement) with the objective of promoting economic, social, and cultural development in all ACP states.

which is a component of the PMA. Among the new programmes are the Bonna *Bagaggawale* (wealth for all) micro-finance programme and the Agro-ecological zoning for export oriented agriculture.

iv). The *fortress world* scenario characterizes the continued differentiation within, between and among groups of people. For instance, their differing livelihoods levels for urban people, between urban/rural people in Uganda, and between people from different industries in the country. Uganda's impressive growth led to a large reduction in poverty, but an increase in inequality over the same period worked against further poverty reduction; if inequality had not changed, poverty would have been lower in 2003 with the same rate of growth.

v). The *great transition* scenario characterizes the major shifts within the country and beyond the country level. At country level, emerging transitions include the returning of peace at the end of the war in Northern Uganda, the prospect of becoming an oil producing country, and the continued transition from East African Customs Union to a federation as well as Uganda hosting the Commonwealth Heads of Government Meeting (CHOGM).

On the other side of the world, scientists have finally agreed that climate change caused by the accumulation of Green House Gases (GHGs) is one of the greatest dangers to the survival of the earth today. These great transitions represent a step already taken by the government and impending actions and steps for government to take to realize the long-term growth plan. Uganda is also pursuing the millennium development goals (MDGs)<sup>17</sup>



and several targets have been achieved while some remain glaring off the mark.

Though not mentioned in this NEMA report it is important to note that the country has ratified also international agreements intended to protect biodiversity, endangered species, marine life, wetlands, and the ozone layer. The country has also signed treaties limiting nuclear testing, chemical and biological weapons, and trade involving endangered animal species. (Microsoft encyclopedia, 2005, 'Uganda, Environmental concerns')

It's important to note also that Uganda was very well represented at the recently concluded Climate Change negotiations in Copenhagen in 2009<sup>18</sup>. What remains still is the full follow up and implementation of feed back from the summit.

## **POLICY OPTIONS FOR ACTION ACCORDING TO THE REPORT**

1. Land scarcity is an emerging threat as the population of the country grows. Yet there is evidence that farm productivity is low and so there is a need to encourage technologies that improve farm productivity. These include provision of appropriate training to farmers on how to improve soil fertility management even before soil additives (fertilizers) are suggested. Some farming systems, especially in central Uganda, have been extremely

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17 MDGs were adopted by world leaders in the year 2000 and set to be achieved by 2015. They are: eradication of poverty and hunger, Universal Primary Education, gender equality and empowerment of women, reduction of child mortality, improving maternal health, combating HIV, Malaria and other diseases and ensuring environmental sustainability.

18 See Statement by the Hon. Minister of Water and Environment, during a press briefing on the Copenhagen Climate Change Conference (COP15) 10th December 2009, Media Center, Kampala. You can visit, <http://www.mediacentre.go.ug/details>, for this briefing in detail.

depleted and the use of fertilizers is the only recourse. However, in some areas soil erosion rates are high and population density is also quite high requiring a different set of interventions.

2. Researchers have noted that many of the soil and water conservation practices such as strip cropping and the use of terraces have disappeared as the different regimes of extension services have changed farmers' outlook to what practices to maintain. As a result the high erosion rates can only get worse since there are no similar institutions in place to encourage farmers on soil and water conservation. Therefore, for areas where there is a strong vulnerability to soil erosion there may be a need for restoration of some of the older institutional arrangements including setting by-laws to reduce the rate of soil degradation.

3. In eastern Uganda's Mount Elgon region the population density and growth rate are very high. The report predicted that the area would run out of available land for agriculture by 2010 and the rest of the country in the medium term. The government has a number of options, including training rural communities on family planning practices; however, an appropriate family size can also be suggested after carrying out sufficient studies on the subject. Secondly, there is an urgent need to increase the number of non-farm jobs available to rural communities. The government has embarked on several initiatives to encourage private sector investment yet the rate of job creation seems to be fundamentally lower. The Government could consider supporting commercial agriculture that is labor intensive as an alternative.

5. Much of north-eastern Uganda and several parts of Uganda have been under floods causing a fundamental destruction of people's livelihoods. One of the major causes of this series of

events was the poor relaying of information both by the Meteorology department and its partners such as the Local Governments and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). In future there should be a rapid and usually Early Warning Systems or mechanisms in place to prevent possible human fatality and also the high level of economic loss, as is clearly evident in the affected areas. The Early Warning Systems could involve transfer of information by radio and other media, mobilization of community leaders and development of evacuation practices for natural disasters.

6. An underlying feature of the threats noted in this State of the Environment Report is that they could also be addressed if the country had a land use policy in place. However, the added time available means that some of the concerns above can be addressed in the current land policy.

7. For several years now international researchers on climate change have been warning that the African continent is most vulnerable to climate change. The floods in northeastern Uganda are evidence of the level of vulnerability. The country ought to quickly adopt the regime of climate change and desertification adaptation techniques and develop a medium term and long term plan for Uganda. Some of these techniques involve increasing efficiency in production practices, developing and supporting social safety and having a long term plan for the vulnerable groups and ecosystems.

8. Natural resources are under increased threat from the growing population, due to demands on them by private investors and the communities that sometimes do not use them sustainably.

There is a need to consider an additional set of tools outside the formal regulations and management structure and advocating for greater participation of other stakeholders. Some of these are being addressed in the Kyoto Protocol's clean development mechanism, and similar mechanisms under the United Nations Convention on Combating Desertification (UNCCD) and the Convention on Biological Diversity (CBD). Still, a large set of tools some of which are market based payments (or compensation) for ecosystems services and insurance arrangements exist and could be adapted to the Ugandan context.

9. There is a need to build consensus of stakeholders on the use of natural resources and environment management on one hand and the need for economic development on the other. Some decisions taken by one group over the other might have large economic, environmental or social impacts that could be irreversible. The report discloses that the current forum seems to lack participation of key actors and decision makers, at least from the perception of the public, based on the recent demonstrations for the preservation of the integrity of Mabira central forest reserve. There is thus a need to build a stronger consensus on the governance of key ecosystems in the country.

10. Aquatic resources are increasingly under pressure as competition for fisheries increases as the international exports increase, and the domestic industry expands. Efforts to develop aquaculture alternatives to capture fisheries require a new effort in addition to research on commercial aquaculture production of the most important commercial fishes such as Tilapia and Nile Perch.

11. Uganda's growing population and poor industrial practices pose a threat to water systems through inefficient use and pol-

lution of rivers, lakes and wetlands. Urban growths that destroy wetlands also reduce the potential for water purification before waste-water reaches the main water systems. Therefore, increased efforts will be needed in the short-term and medium term to strengthen regulations and enforcement of water quality monitoring and effluent management by firms located close to water systems. The country should also develop a long-term strategy on water harvesting, increasing urban water demand and water for agricultural and industrial production.

12. Agricultural expansion from small plots into estate production, conversion of wetlands and deforestation pose a strong threat to the country's biodiversity. Information on biodiversity and threats to biodiversity is not widely spread or understood by stakeholders engaged in activities that are likely to lead to biodiversity loss. Current information dissemination strategies should target the potential violators more strongly.

13. Increasingly wood fuel is under pressure to provide fuel to rural households and urban households for domestic cooking. The high population growth rate means that the forested areas will disappear at a much faster pace than before. However, there are sufficient alternative sources of energy, although largely unexploited. The country should move hastily towards increasing the energy options available and making the energy options available for the major consumers, households and industrial users. In the medium and long-term the country should move away from heavy fuels as sources of energy as they increase the country's carbon foot print.

14. The report says environmental health problems still contribute about four-fifths of the country's morbidity. Malaria and diarrheal diseases are still major causes of illness and deaths. There

is thus a need for increased research on the environmental linkages and what options, outside the current set of practices, can be implemented cost-effectively.

15. There are several commercial opportunities from sustainable production, consumption and the environment conservation economy. Many developing countries, Uganda inclusive, are re-positioning themselves to better benefit from the Clean Development Mechanism (CDM)<sup>19</sup> of the Kyoto Protocol of the United Nations Framework Convention on Climate Change. However, opportunities exist elsewhere as well in biodiversity conservation through promoting niche markets such as organic agriculture, well planned bio trade opportunities ( e. g Gum Arabica, wildlife trade, and fisheries). Private sector and public sector participation in the economy based on promoting conservation is still in the early days and needs added support from policy makers, government and private investment in conservation initiatives.

### **1.3.2 Religion and Environmentalism in Uganda**

Religiously, as Church, organized attempts to combat environmental degradation are found in the activities of the Catholic Church's humanitarian organization Caritas. Data on what other religions have done systematically in the same regard is scanty. Caritas is active in all the 19 Catholic dioceses of Uganda and has employed all the conventional means of a conservation organization such as the approach NEMA and other such environmental organizations take.

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19 The Clean Development Mechanism (CDM) is one of the mechanisms defined in the Kyoto protocol and one of its two objectives is to assist developing countries in achieving sustainable development.

However being a religious environmental group, Caritas has ideals of promoting a religious ethic to the environment. It insists for example that Climate Change presents moral and ethical questions that need to be answered. Caritas thus stresses the principles of Catholic social teaching to guide us in our response to tackling the greatest challenge of environmental degradation facing humankind ([www.caritas.org/about/index.html](http://www.caritas.org/about/index.html)). Catholic environmental action as indicated also by the afore mentioned website thus bases its engagements on such principles as these below:

- Human beings are created in the image and likeness of God” (Genesis 1:27). We have been given the gift of sharing in God’s creative activity to transform the world.
- God destined the earth and all it contains for all men and all peoples so that all created things would be shared fairly by all mankind under the guidance of justice tempered by charity.
- The natural environment is part of the “common good” that is given to us by our Creator. Each individual has a responsibility as a steward of creation to participate in the development and protection of the goods within creation. We also have the right to enjoy the fruits of the development.
- Our responsibilities stretch beyond our own lifespan to safeguard the possibilities of future generations to share in the common good of creation.  
This is the covenant of mutual respect and care between God, creatures and humans.

- Stewardship is a guiding principle in Christianity, encouraging us to live within our means, and to live sustainably. Authentic development is God's hopeful plan for the human race within Creation. It involves the social, spiritual, ecological and economic dimensions of our existence. It is a plan that originates within God's love and one that depends on our free will and cooperation to be realized.

Such is the out look of religious environmental work such as that envisaged by Caritas. It however remains to be seen how such religious approaches are concretely employed in the day-today running of the campaign for environmental conservation. The Pope emphasized the same in his 2011 adress to CARITAS " Church teaching must guide the efforts of Catholic relief and development agencies; they must have a vibrant christian identity" (Catholic Herald, 3, June 2011) Do we see much of that religious environmental ethics emphasized systematically, pervasively and concretely in the regular pastoral action of the church in Uganda?



## **CHAPTER TWO**

## 2.1 ECO-THEOLOGY: A FACTOR IN THE ENVIRONMENTAL CRISIS

As solutions to the environmental crisis therefore, social, economic, political, technological and even cultural practical solutions have been put forth to arrest the deterioration of the environment. It has indeed always been acknowledged that environmental conservation depends on the efforts of governments, scientists, businesses, industry, agriculture and voluntary environmental organizations. Such politico-socio-economic assertions and efforts cannot be disregarded. However religion, theology or spirituality also have an environmental contribution to make and this role must arouse interest.

Unfortunately few people seem to regard the question of ecological crisis as religious or theological in its essential nature and possible remedies. This is read from the indicators of the extent to which religion has participated in environmentalism. Renowned Church historian Tim Dowley however is positing that

“God’s plan of redemption is not just for the human race but the whole created order, which seems today as much under threat from human agency as the weakest members of the human society seem to be from their fellows. We now need to add on the list of social injustices...our sins against creation: the green house effect, the devastation of the world’s forests, the production of acid rain, the pollution of the seas, the exhaustion of finite resources and an unbridled biotechnology... Religion now must shift its care and concern from concentrating solely on the human soul alone to cater for the universe which too is under imminent threat of a destiny of damnation, and we humans who are responsible are not daunted at all apparently.”

(Tim Dowley, 1990, p 671-672). Dowley in this very place calls the exigency of the ecology-theology study as a church issue the obligatory ‘next page’ of church history. There is thus a call to

recognize that the cause of the ecological crisis is to a very big extent theological.

Spirituality, prayers, Scriptures as well as religious instruction therefore can all be employed to address the issue of environmental degradation. All religions indeed have a contribution to make to this kind of environmentalism. A religious ecology is however more reasonable and mandatory for the Christian because the redemption of God for his creation goes to both man and also the entire universe (Rom 8:18-24). Our Fundamental Theology, Scriptural readership, Liturgy, the sacraments, and Spirituality in general all have to consider deeply environmental concerns. This rather novel<sup>1</sup> outlook requires of course new insights into the doctrine of our faith to help bring out ecological concerns adequately but without error.

There is need to rethink and explain theology with considerations of ‘a redemption’ that goes to the entire created universe. Man is in fact redeemed, or he works out his salvation in an inevitable context or complex of the whole created order in which he forms an integral part (Rom 8:19-23). When he sinned for

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1 Environmental theology still has to labor much to prove to main stream Catholic theology and the official teaching of the Church the orthodoxy of many of its proposals. Environmental theology is suspect in some respects where it apparently relates to pantheism, animism, Darwinism and to the pantheistic views of the unorthodox Jesuit Paleontologist Pierre de Chardin. Rome looks at Environmental theology writings in some cases also as more aesthetic, sensational or poetical than genuinely spiritual. Environmental theology thus must be open to receive positively the official scrutiny and tutelage of the Church; the Church on the other hand must also continue promoting the Redeemer’s fundamental cause, namely “to reconcile all things in him, whether those on earth or those in heaven” (Col 1:20), and as an alert steward to act with urgency whenever God’s creation is under any threat.  
[Confer [http://en.wikipedia.org/wiki/Pierre\\_Teilhard\\_de\\_Chardin#Controversy\\_with\\_Church\\_officials](http://en.wikipedia.org/wiki/Pierre_Teilhard_de_Chardin#Controversy_with_Church_officials);  
<http://ncronline.org/news/ecology/pope-cites-teilhardian-vision-cosmos-living-host>;  
[http://doc.columbanosperu.org/Sean\\_McDonagh-Eucharist-and-Ecology.pps](http://doc.columbanosperu.org/Sean_McDonagh-Eucharist-and-Ecology.pps).]

example, all nature got chaotic; when he is at peace with God all creation is renewed (Gen 3:15ff).The human race thus has to learn to speak of the salvation of humanity in balanced vigor with the integrity of the entire created order.

That is the message of religious environmental conservation. It is religious work. It tries to supplement the contribution of the social sciences in solving the ecological crisis. It seeks to reiterate the existing eco-religious avenues and it attempts to point out also new religious possibilities to improve on the relationship between theology and ecology, and to indicate how to live the relationship better. That is the mind of eco-theology: a religious outlook at the universe as a set and entity with a divinely willed origin, order and destiny. Here one must however avoid Pantheistic/Animistic tendencies which claim that the universe was created and is guided by a divine ordinance and is itself divine (Catechism of the Catholic Church no.285).

The issues of ravaged landscape, destroyed flora and fauna as well as atmospheric pollution are concerns that are at the very center of the creation - salvation gospel. It is not humanity alone that is necessarily at the focal locus of the gospel; it is God instead as well as the integral constitution of all the components of His creation (Tim Dowley, 1992); creation moving from and to God (Catechism of the Catholic Church no1046ff). John Paul II in his opening section of the 2001 General Audience and reflecting on Ps.148 has aptly summed up this interconnectedness of creation at whose focal centre is humanity thus that, “the believer, in a sense, is the shepherd of being, that is, the one who leads all beings to God, inviting them to sing an alleluia of praise” (*General Audience Address*, January 17, 2001,no 1)

Mankind thus stands at the centre of the entire creation and the

vital force of the universe is ultimately as it were, our own 'soul' so that the sins against creation resonate to affect our very souls and vitality. The sins<sup>2</sup> against the natural environment culminate in offending God's purpose for the world and in no much less than the way sinning against our very souls does offend His purpose. There is thus a need to approach environmentalism as a religious concern. Religion can use holy writings, theology, religious instruction, prayers, and so on to approach environmental concerns especially in the wake of the current threat of environmental degradation.

We all have to come to the realization that it is in God's, and not our world that we live and work out our eternal destiny. That is the way all the inhabitants of the world should now look at the earth, remembering with devotion each morning we pick our tools to work, or as we walk to the fields and factory with the Psalmist that "*The Earth and its fullness is the Lord's*" (Ps.24:1). And we pray as in the Breviary, "Lord keep our eyes fixed on the new heaven and the new earth; make us care more deeply for our world and its future" (Friday Evening Prayer, Eastertide Week II).

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2 Benedict XVI has pronounced officially that pollution of the environment is a sin.



## **CHAPTER THREE**

### **3.0 CHRISTIAN REMEDIES TO ECOLOGICAL DEGRADATION.**

### 3.1 THE ROLE OF THE MATERIAL BODY FOR SALVATION

We work out our salvation situated on earth and this directly requires our bodilines as well as all the material resources of the earth that support our life here. We need to come to a fundamental awareness that we necessarily need our body and the material world around us to workout our vocation and eternal fate. A renewed emphasis therefore must be put on the need for a proper and esteemed valuation of our own bodilines and the health of the material world or the environment around us.

We are intimately interconnected with the whole life-system of the planet and the complex interaction between the other living creatures, the atmosphere, land and the water systems. We are not pure or disembodied spirits; we live and move to our sublime destiny from, with, in and using the mundane earth. That is perhaps one of the positive lessons the theory of evolution<sup>1</sup> can teach us. The Catechism of Catholic Church teaches, sourcing inspiration from the Third Century Theologian Tertullian that “The flesh is the hinge of salvation” and so “We believe in God who is creator of the flesh; we believe in the Word made flesh in order to redeem the flesh; we believe in the resurrection of the flesh, the fulfillment of both the creation and the redemption of the flesh.” (Catechism of the Catholic Church,no.1015).

In his encyclical ‘Evangelium Vitae’ (The Gospel of life) John Paul II called this movement Ecological conversion: the endeav-

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<sup>1</sup> The theory that all living things on earth have diverged, by direct descent, from a single origin of life. Taken to ultimate conclusions or implications, it nullifies the Christian doctrine that humanity descended from one single pair of parents, Adam and Eve (monogenism versus polygenism).Polygenism downplays the Christian doctrine of Original sin and ultimately the redemptive work of Christ. Materialistic evolution negates also the creation of the spiritual nature in man by God.[visit [http://en.wikipedia.org/wiki/Catholic\\_Church\\_and\\_evolution](http://en.wikipedia.org/wiki/Catholic_Church_and_evolution)].



or by which man must now get concerned about the health and integrity of the entire material universe and especially of the life of humans. He says, “ It is necessary, therefore, to stimulate and sustain the *ecological conversion*... [a] welcome sign is the growing attention being paid to the quality of life and to ecology, especially in more developed societies, where people’s expectations are no longer concentrated so much on problems of survival as on the search for an overall improvement of living conditions” (*Evangelium Vitae*, 27). The Holy Father elsewhere continues thus that, “therefore, not only is a physical ecology at stake, attention to safeguarding the habitat of different living beings, but also a human ecology that will render the life of creatures more dignified, protecting the radical good of life in all its manifestations and preparing an environment for future generations that is closer to the plan of the Creator”. (*General Audience Address*, January 17, 2001, no 4)

Revelation also affirms the common destiny of the material world and man (Catechism of the Catholic Church no.1046-1050). All this emphasizes the need for a proper and esteemed valuation of our own bodies and the material world or the environment around us. Long-established deficient theologies perhaps neglected the body and the entire material universe too much. Extremes for example were the Puritanical and Manichaestic attitudes that neglected the body and the material order as intrinsically wicked. Such outlook erroneously taught many to put an irreconcilable dichotomy between matter and the spirit, the earthly and the heavenly, and so on, and this among other effects is adverse to environmentalism.

The Catholic Church on its part has however not neglected its environmental role. In recent times especially, major Church documents<sup>3</sup> have touched the issue of environmentalism. Pope

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2. The fundamental doctrine of Manichaeism is its dualistic division of the universe into contending realms of good and evil: the realm of light (spirit), ruled by God, and the realm of darkness (matter), ruled by Satan.

3. See select bibliography for the full list of magisterial eco-documents.

John Paul II has spoken often on environmental concerns<sup>4</sup> in his sermons and addresses to FAO, ambassadors, jurists, farmers, indigenous people and during foreign visits. He has written pieces on the environment in messages on peace, and in authoritative encyclicals as an issue of substance which goes to the heart of Catholic faith. One can confer for example his *Evangelium Vitae* (1995) nos 42, 83, 100, *Centesimus Annus* (1991) no. 35-40, *Sollicitudo Rei Socialis* (1987) no. 28-34, *Laborem Exercens* (1981), and *Redemptor Hominis* (1979) no 8, 55, 90 and 92.

In 1963 John XXIII also referred to the environment in his encyclical *Pacem in Terris* no. 148, and, in 1971 environmental issues were addressed by Paul VI in his Apostolic Letter *Octogesima Adveniens* nos. 48-50. Vatican II also talks about environmentalism in its Pastoral Constitution *Gadium et Spes* in nos. 1, 10 and 43. *The Catechism of the Catholic Church*, (1994) also has references to the inter-related issues of society, economy, environment and spirituality in nos. 339-341, 682, 1905-1912, 1930, 2415, 2422-2424, and 256.

What remains is to have this magisterial ecological repertoire of documents translated and transmitted into manuals that the grass-root Christians can work with to live an eco-imbued Christian life. Church authorities also need to work on a policy framework through which her ecology proposals will effectively be incorporated into the environmental agenda of local governments and the International Community.

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4 These documents can be found for example on the Vatican website: [http://www.vatican.va/holy\\_father/index.htm](http://www.vatican.va/holy_father/index.htm) and <http://vatican.mondosearch.com/>. It remains our biggest challenge however to translate into concrete environmental actions what such documents put forth.

To sum it all therefore, we say that there is need therefore to have an effective pastoral plan and care regarding our planet too. This is because through Christ God created and planned to reconcile all things in heaven and on earth to himself (*Col 1:15-20*). Then also we work out our salvation situated on earth and so our redemption is intimately linked with the salutary state of our planet. The earth is a veritable hinge of our salvation; we are intimately attached to it and we need it to work out our salvation. Devastation and neglect of the whole material universe thus is a direct fight against the very cause of our own salvation.

### **3.2.0 The Sacraments, Liturgy and Ecology: reflections**

All worthwhile discourse on religion must open with Sacramentology. God is pure Spirit and is invisible (Jn 4:24, Jn 1:18) and so he designed for us a way to have concrete contact with him in visible symbols that relay his grace. These are the sacraments. They are the doors and vistas for accessing the otherwise invisible God. They sort of give God a body and enable us to touch him, for He is otherwise inaccessible. Our discourse here on a religious ecology too must thus touch the sacraments. The Prime Sacrament par excellence is Christ himself; God putting on our flesh as man (Jn 1:14), to become for us “the image of the invisible God” (*Col 1:15*).

The Sacraments have a fundamental relationship with creation and nature in general. God speaks to us through the visible creation. From the material cosmos man reads the traces of the Creator. The natural world in its own right is a veritable revelation of God: “The heavens declare the glory of God; the sky proclaims its builder’s craft.

One day to the next conveys that message; one night to the next imparts that

knowledge. There is no word or sound; no voice is heard; Yet their report goes forth through all the earth, their message, to the ends of the world.” Ps 19:2-6.

Light, darkness, water, fire, wind, vegetation and so forth make known the greatness of God. (Wis. 13:1, Rom 1:19ff Acts 14:17). ‘Sacrament’ in general can thus be understood as that which points to, and reveals the divine and communicates it to us and so the natural world is a ‘sacrament’ in a sense you could say. Sacramentology even employs the natural elements of water, oil, bread, and wine as sacramental matter (Catechism of the Catholic Church nos.1145-1152).

Sacramentology besides can have also a message of environmental conservation. However literature on this is scanty, perhaps because the eco-theology movement as we have already noted is still a budding area of interest for both theologians and the Church. Below are however a few ecological reflections that are deducible<sup>5</sup> from Sacramentology and the Sacraments.

### **3.2.1. Ecological Reflections on Baptism**

Baptism reminds us of water. In the natural world, water among other things points to cleansing, cleaning, refreshment, regeneration, growth, life, renewal. No wonder then that life in the Church begins with the waters of baptism.

Water has been from the beginning constituted as the point of inception from which life begins and its necessity for life can never be disputed. All life is bound to vitality by water. God bestowed on water the dignity of medium of life generation. Both the spiritual and physical life depends on water. It confers both inward and outward vitality.

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5 They are for the bigger part creative eco-reflections by the author of this book on the sacraments.

Water is thus an effective regeneration principle but *true water* is *pure water* (natural, not stagnant, of flowing stream and so on). Therefore, salutary water has to be good: free from pollution.

### 3.2.2. Ecological Reflections on the Eucharist

Ecological suggestions are only hinted at in the prayer over the gifts during the Eucharist as the Priest prays over both the Bread and Cup thus, *“Blessed are you Lord God of all creation. Through your goodness we have this bread to offer, which earth has given and human hands have made. It will become for us the bread of life. / Blessed are you Lord God of all creation. Through your goodness we have this wine to offer, fruit of the vine and human hands. It will become our spiritual drink”*. From the Eucharist however should be drawn the acme of ecological reflections. The Eucharist in the first place as the Prime Food and Bread of life reminds us in the most vivid way its connection with agro-ecology and the bond between earth, life and food. It compels us to preserve all the sources and elements that help us to cultivate food.

The Eucharist reminds us also the sacredness that surrounds all food, eating and agriculture, a truth Jesus himself highlighted at every meal where he had to first give blessing and glory to God for the gift of all food and eating (Mt 14:19, Jn 6:11).

The bread of the Eucharist which is a ‘Compendium of all sweetness’ is a pointer also to the integral interconnectedness of the life giving elements of nature that add up to cause agro-life on earth: the elements of trade winds, ocean currents, forestry, farmyard manure, water, sunlight, human labor, air, the crossing of pollination, the healthy mixture of crop and animal husbandry, all of which work together to support life on earth. So when we ‘eat and drink’, we nourish ourselves on a balanced diet that

evokes hallowed reflections on the Bread of Life that is full of all goodness.

The Eucharist is evocative of also the justice that must be accorded to eating. “We do not snatch food; we have to be worthy partakers of the meals we share in” (Joan Pulse, 1990, p.68). At the Eucharist, no unrepentant sinner is a worthy guest; at an ordinary meal those who abuse ecology are thieves wishing to reap food where they sow venom, savoring the deliciousness of food but inattentive and abusive to the elements of weather that help us have delectable food.

The Eucharist that is ‘God in hiding’ under the species of bread and wine evokes also the memory of the *miraculous* hidden but available in nature to the diligent cultivator who industriously bends on earth to toil, till and wrest life from the earth.

At the unworthy hands of man, the Priest, is confected that bread and wine into the Divine Body and Blood of the Savior by the action of the Holy Spirit. The cultivation of the world is thus also in a similar way a God-man partnership in which both parties have bounden parts to play. Moreover at offertory we present to God the bread and wine which is at once ours and His own; He who is the creator of what we grow and we the owners of the produce we offer Him at the altar.

The Eucharist as a bond of charity also makes us united in purpose for those unfortunate men, women and children to whom neither water nor food is available for existence. It calls us to cultivate the earth more fruitfully for all. Sublime and Transcendental Food as it is, the Eucharist reminds us of pan world hunger and destitution as well as our ecological responsibility in the food crisis.

The sacrifice of the Eucharist also brings us together with the whole creation every day into that integrated focal relationship in whose centre Jesus stands as the operational principle of reconciliation of the entire universe to the Father through Christ in whom “all the fullness of God was pleased to dwell and through him to reconcile all things to Him, whether on earth or in heaven, making peace by the blood of his cross” (Col 2:19-20).

O Lamb of God who takes away the sins of the world, happier shall we be at your Supper with our hearts and hands cleansed of the sins we have committed against the integrity of creation; sins which resonate to affect our very existence and destiny.

### 3.2.3. Ecological Reflections on Penance

The sacrament of penance also has ecological value even if the traditional catalogue of what we take to confession hardly included evil against nature until of recent when Benedict XVI’s Papacy pronounced pollution a sin<sup>6</sup>. Yet the sins of our willful environmental degradation too displease God, our neighbor and ourselves too, in a way all sins do as the prophet says: *“The earth mourns and fades, the world languishes and fades; both heaven and earth languish. The earth is polluted because of its inhabitants, who have transgressed laws, violated statutes, broken the ancient covenant. Therefore a curse devours the earth, and its inhabitants pay for their guilt; Therefore they who dwell on earth turn pale, and few men are left. The wine mourns, the vine languishes.”* (Is 24:4-7).

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6 In March 2008 Archbishop Gianfranco Girotti head of the Supreme Apostolic Penitentiary, announced that pollution together with abortion, genetic manipulation, capitalism, drugs, abortion and paedophilia are some of the greatest sins of our times. Catholics are required to take them to confession.

Moreover in order to reconcile with God the entire creation has to take the same direction of reconciliation because we get salvation with and in the context of all creation. When man is justified and his heart is changed, creation will also be reconciled to God: “and all this is from God, who has reconciled us to himself through Christ and given us the ministry of reconciliation, to reconcile all things to himself through Christ.” (2Cor 5:18 -20). It is the will of God that redemption is both anthropocentric and also cosmic.

We could therefore reasonably consider ecological dimensions of the other sacraments also, and without being heretical, speculative or appear as merely forging connections. Then also our treatment of the subject here is a call to have a way of incorporating ecological concerns officially into the liturgy.

### **3.3.0 Eco prayers and Poems**

We need to address ecological concerns also in prayer. These ecological prayerful compositions could be generated either spontaneously or formally to be used by all who work on earth: in the farm, at home, in the office, in the factory or whatever human enterprise. Our work on earth is sacred and is a means not only of civilization but also of sanctification<sup>7</sup>. We have to learn especially ‘to pray the environment’ and to form prayers that have environmental themes if we are to engage into religious environmentalism. Below are some creative samples (composed by the author of this book) to experiment with the idea of ecological prayers. They fall under various areas of human enterprise.

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<sup>7</sup> See Encyclical of John Paul II on Labor, *Laborem Exercens*.



### **3.3.1 An industrialist's ecological entreaty**

O God hidden but seen on high above in the heavens from Earth, may your Name be kept holy and its brilliance un-smothered and unstained by our chimney emissions. May your graces on earth flow without the sordid surge of our industrial discharge. May the noise of my hammer and mallet on my anvil not be noisy pollution to shut up my ears to your call and to the suffering of those around me due to the created industrial bang.

May the smoke from my chimney be regulated so as, not only to let your Son's rays not be covered up in the cloud created in the heavens, but may it be also sacred smoke, an incense of sweet scent symbolizing good service to you and to fellow men.

May I always remember that the confines of my workshop point to an eternal truth, namely, that the world and all its resources are limited and we cannot have them exploited infinitely without rein, regulation and wisdom and expect to have them always. Lord send forth your Creative Spirit into my wayward creativity and you shall renew the face of the earth. Amen.

### **3.3.2. A Seaman's ecological entreaty**

O God, all living creation and humanity looks to water for life. You have made me a seaman to oversee your seas. By navigation afloat on your water I assume your primordial role as Overseer over water when your Spirit hovered over all world waters. There I must police all piracy that destroys sea life, for underneath your waters lies and lives delicate life and all the noblest yet fragile life of all on earth depends on water.

Give me the discernment to be guard over all your waters on earth because watching over water is protecting life directly. May I work to keep it pollution-free always, for in pure waters is the regeneration of all living creation here, and an eventual "welling

up into eternal life” (Jn.4:14) Amen.

### **3.3.3. Farm ecological entreaty**

O God the Father of all, You have created the earth and furnished it with creative energies which, in appropriate season when you send forth your rain, sunshine and dew in due time, give our seeds and suckers budding and germination.

You made the earth veritable mother indeed whose seed-bearing flora flower to give us edible seed, robust and lush greenery that provides us vegetable leafy foliage and roughage, as well as succulent roots that come up as real food for our nourishment.

Give knowledge to the family of the peasantry and estates-men gathered here set with farm tools to cultivate nourishment from mother earth. Let them till the land leaving it uncontaminated for future generations of food-cultivation and animal-husbandry.

As we set on cultivating the land to wrest out nourishment from it, may we not draw from it fertility without considering its replenishment. Then renewed from exhaustion it will be recharged next season to give us still an abundant bumper harvest. Afterward we shall reap a harvest of joy having labored fruitfully with Your wisdom, You the Eternal Sower. Amen.

### **3.3.4. Ecological entreaty at meals**

Your life-giving spirit and creative love O lord, your life-giving waters, the blow of your winds as well as the sweat and toil like in Gethsemane touched and caressed the fruitage and food we are about to partake of now as it grew in the fields and in the

wilderness. Your Sun shone over this food crop to give it blessed nutrients. From the ground in which you fashioned us you have fashioned the seed we planted when you sent your rains on earth and your cool breeze over our fields.

Help us Lord to remember that food is sacred and that touching it is veritable contact with you the divine power and presence whose subtle munificence fills all the earth to fashion and form our bodies and our souls, empowering us with wonderful inspiration and strength that enables us to do your will as we journey in our terrestrial trek towards you in heaven.

Teach us to use also the wood of the forest sparingly while cooking just as some had to be spared for the Redeemer's Cross. May we learn to spare some of the wood for the redemption of the earth's environment. May we learn to burn sparingly also all the other fuels as we prepare our food, for burning them all indiscriminately rounds up to burning ourselves in the ecological oven-hell ignited.

Teach us to be thankful also for your waters and whenever man bends with pot or pitcher to draw it, may it be an occasion to give you thanks, you who are the Eternal Generator of all life giving water and are the Bread of life. Amen.

### **3.3.5. Ecological entreaty for our Mother Land**

O God of our fathers, you created man and set him in the Garden of Eden as a sign of permanent assignment. You called Abraham our father in the faith and you promised first to root him in a land of your own donation and allotment and on it all posterity and prosperity was to depend.

Give this family love, hallowed attachment and duty to the land you have allotted to us here and to our motherland as a whole. May we learn to make it a better home on earth and a springboard towards you in heaven. May we learn to love this homeland and to care for it even if it is not our eternal abode and destiny.

Help us to remember that our earthliness is the hinge of our salvation and that it is from the earth as a spring-board that we work out our heaven. May we keep our land livable, free it of all degradation and by your mercy and justice teach us to ensure that it is equitably distributed to all. Amen.

### **3.3.6. A Forester's ecological entreaty.**

Forgive me O God for the times I have offended You in your forests. No word, no speech, no voices are heard yet their cry reaches you when I cut down indiscriminately their wood. Like in anguished grief of their vegetable soul they sent out sappy tears at each cut.

Make me O God a good conservationist of your vegetation and promoter of greenery on earth, for in your infinite mercy you have set nature going in a train but whose life giving rains and good weather depend on forestry.

May all trees again be an untouchable and sacrosanct 'tree of life' amidst us as was the case in the middle of the primordial garden of Eden, for erasing forests bare is consigning the world to a desolate desert destiny and a hell of climatic heat on earth. Amen.

### 3.3.7. A Game Poacher's ecological entreaty.

Look with favor on the beasts of the wilderness Lord for I the decreed custodian of your fauna have failed in my duty when I gave rough and brutal treatment to domestic animals and indiscriminately hunted down wild game.

By my brutal gunning, stoning and catapulting I have silenced all the music of the birds, and animals have become prey to my indiscriminate predation. Teach me docility and a domestication culture that what I have always persecuted abroad in the forested jungle I may learn and love to raise again by a homely domestication.

I pray for all zoologists also as well as all game rangers that in their bounden husbandry to animals they may learn to preserve and promote the survival of especially those species at the verge of extinction due to my threat and the threat from habitat hostility. Amen.

## 3.5 SELECT BIBLICAL ECOLOGICAL TEXTS

As hinted on already above we need to have an ecological outlook to the Scriptures too. We have below sampled out basic ecological texts and commented on them. These Biblical texts can be used for study, preaching, prayer, meditation, and for ecumenical ecological action.

**i. Gen 2:8-10 : Nature is good and created by God. We need to preserve it as such.**

“Then the LORD God planted a garden in Eden, in the east, and he placed there the man whom he had formed. Out of the ground the LORD God made various trees grow that were delightful to look at and good for food (Gen.2:8-10).

**ii. Gen 4:3-4: The earth's fruits and resources are the elements used in worship and offertory to God.**

“Abel became a keeper of flocks, and Cain a tiller of the soil. In the course of time Cain brought an offering to the Lord from the fruit of the soil, while Abel, for his part, brought one of the best firstlings of his flock.” (Gen 4:3-4)  
Cf. also Ex.23:19, Lev.12:2-8.

**iii. Gen 12:1-3: Land is sacred; it is an assignment from God to help us work out our destiny.**

“The Lord said to Abram: go forth from the land of your kinsfolk and from your father's house to a land that I will show you. I will make of you a great nation, and I will bless you; I will make your name great, so that you will be a blessing. I will bless those who bless you and curse those who curse you. All the communities of the earth shall find blessing in you.” ( Gen 12:1-3).

**iv. Ex 16:1-3 : Barren earth breeds barren religiosity and complaints to God.**

“Here in the desert the whole Israelite community grumbled against Moses and Aaron. The Israelites said to them, would that we had died at the Lord's hand in the land of Egypt , as we sat by our fleshpots and ate our fill of bread! But you had to lead us into this desert to make the whole community die of famine!” (Ex 16:1-3).

**v. Exodus 19:16-19 The cosmos and natural phenomena are a sign of God's divine power and presence.**

“On the morning of the third day there were peals of thunder and lightning, and a heavy cloud over the mountain, and a very loud trumpet blast, so that all the people in

the camp trembled. But Moses led the people out of the camp to meet God, and they stationed themselves at the foot of the mountain.

Mount Sinai was all wrapped in smoke, for the Lord came down upon it in fire. The smoke rose from it as though from a furnace, and the whole mountain trembled violently. The trumpet blast grew louder and louder, while Moses was speaking and God answering him with thunder.” (Exodus 19:16-19). Cf. also Judges 5:4-5, Ps 29)

**vi. Wis. 9:1-3: Man is obliged to dominate and subdue the earth with wisdom, care and love.**

“God of my fathers, Lord of mercy,  
you who have made all things by your word  
and in your wisdom have established man  
to rule the creatures produced by you,  
to govern the world in holiness and justice...  
”( Wis 9:1-3).Cf. also Gen.1:26)

**vii. Is 24:3-6 When man sins, he suffers but creation is also implicated; it also consequently suffers.**

“The earth mourns and fades, the world languishes and fades; both heaven and earth languish. The earth is polluted because of its inhabitants, who have transgressed laws, violated statutes, broken the ancient covenant. Therefore a curse devours the earth, and its inhabitants pay for their guilt. Therefore they who dwell on earth turn pale, and few men are left. The wine mourns, the vine languishes.” (Is 24:3-6). Cf. also Jer. 4:22-28, Hosea 4:2, Joel 1:10-12, Amos 4:7-9.)

**viii. Ps 19:2-6 :The natural world in its own right is a veritable revelation of God. The cosmos is like a sacrament; a visible sign and testament to an invisible divine reality.**

“The heavens declare the glory of God; the sky proclaims its builder’s craft. One day to the next conveys that message; one night to the next imparts that knowledge.

There is no word or sound; no voice is heard; yet their report goes forth through all the earth, their message, to the ends of the world. God has pitched there a tent for the sun; it comes forth like a bridegroom from his chamber, and like an athlete joyfully runs its course.” (Ps 19:2-6). (See also Sir 42:15-43, Job 12:7-9).

**ix. Ps 24:1-3: The earth and its fullness is the Lord’s. Man must respect creation and be its good custodian.**

“The earth is the Lord’s and all it holds, the world and those who live there. For God founded it on the seas, established it over the rivers.” (Ps 24:1-3). Cf. also Ps. 104:24.)

**x. Rom 8:17-24: Both man and creation await a redemption that is akin:**

“For creation awaits with eager expectation the revelation of the children of God; for creation was made subject to futility, not of its own accord but because of the one who subjected it in hope that creation itself would be set free from slavery to corruption and share in the glorious freedom of the children of God. We know that all creation is groaning in labor pains even until now; and not only that, but we ourselves, who have the first fruits of the Spirit, we also groan within ourselves as we wait for adoption, the redemption of our bodies.” (Rom 8:17-24).



**xi. 2 Cor. 5:18-20: Creation will be renewed if humanity is transformed. Man must be reconciled first with God and neighbor if creation is to be restored to the original beauty it got from the Creator.**

“And all this is from God, who has reconciled us to himself through Christ and given us the ministry of reconciliation, namely, God was reconciling the world to himself in Christ, not counting their trespasses against them and entrusting to us the message of reconciliation.

So we are ambassadors for Christ, as if God were appealing through us. We implore you on behalf of Christ, be reconciled to God.” (2 Cor 5:18 -20). Cf. also Gal 6:15.

**xii. Col 1:15-20: Through Christ God created and planned to reconcile all things in heaven and on earth to himself. It is the will of the Father that the redemption of Christ is cosmic.**

“He is the image of the invisible God, the firstborn of all creation. For in him were created all things in heaven and on earth, the visible and the invisible, whether thrones or dominions or principalities or powers; all things were created through him and for him.

He is before all things, and in him all things hold together.

He is the head of the body, the church.

He is the beginning, the firstborn from the dead, that in all things he himself might be preeminent. For in him all the fullness was pleased to dwell, and through him to reconcile all things for him, whether those on earth or those in heaven making peace by the blood of his cross” (Col 1:15-20).

**xiii. Letter to the Hebrews:** “By faith we understand that the universe was ordered by the word of God, so that what is visible came into being through the invisible”. (Heb. 11:3).

“The universe is not a result of anonymous energy and blind purposefulness. It is created and saved by the love, wisdom and power of a personal God and is not a product of materialistic determinism and natural selection...and if the universe evolved it is because of the wisdom, freedom and love of the Creator who is other than the universe He wanted to be” (John F. Haught 1995, p.65).

God’s revelation as is the evidence in Creation, the Patriarchs, the prophets, and the Incarnation is a *promise* of *fulfillment of his kingdom* and at the end of the course he will be all in all (Rom 8:28) and “we shall see him face to face as he really is” (1 Jn. 3:2).

**Xiv) And so all creation moves from, in and is destined to God:** “... in these last days, God spoke to us through a Son, whom he made heir of all things and through whom he created the universe, who is the refulgence of his glory, the very imprint of his being, and who sustains all things by his mighty word.” (Heb.1:1-2) and “ then comes the end, when he hands over the kingdom to his God and Father, when everything is subjected to him, then the Son himself will (also) be subjected to the one who subjected everything to him, so that God may be all in all” (1Cor.15:24, 28). Cf. also Jn. 1:3, 1 Jn. 3:2, and Rom. 8:28.

## **CHAPTER FOUR**

## **4.0 NON CHRISTIAN RELIGIONS AND ECOLOGY**

Without falling into errors such as pantheism, animism and even syncretism, the ecological insights deducible from non Christian religions can have rich religious value. These religions in their own right have contributions with a beauty, truth and spiritual perfection we can consider (Vatican II, *Nostra Aetate*, no. 2).

### **4.1. CONSIDERATIONS FROM THE AFRICAN TRADITIONAL RELIGION.**

For the traditional African, animals and plants in the first place constitute human food and their importance is of great significance. However above all that mundane view, all nature for the traditional African has religious connotations and divine connections and so is linked with the concept of God and the spiritual world. “According to the traditional African, man lives in a religious universe so that natural phenomena and objects are intimately associated with God” (John Mbiti, 1995, 48). Animals and plants for example are used for sacrifices. For sacred reasons, and taboo also, some are not supposed to be eaten.

Nature and the entire universe for the traditional African is thus viewed as sacred: mountains, hills, lakes, rivers, wells and springs are places of worship and are abodes of deities and spirits. For the same reason many plants and animals are untouchable and it is taboo to harvest them for any reason whatsoever. That conserved much the environment. However, modern man in Africa in the guise of throwing away superstition has demystified life, so that nature is no longer revered as sacred; few things are now

regarded as untouchable or sacrosanct<sup>1</sup>.

## 4.2 CONSIDERATIONS FROM THE ANCIENT GRECO-ROMAN RELIGION.

In Greco-Roman culture the whole of the cosmos and society was viewed as a divine *complexus*. That is why all the areas of life had a god or goddess in charge. They even had a temple, the *Pantheon*, dedicated to all these deities. The deities were charged with ordaining and ordering both the cosmological and the sociological in life making it all a natural sacred entity. The deity was understood to be in charge of all life and consequently every sphere of life was understood and lived religiously. The deity was inspirer, creator, model and regulator of a particular section of either the universe or human society; the deity was in charge.

The ancient Greek and Roman thus naturally lived religiously; religion permeated all life and all activities. There was no *secular* and *sacred* divided; life was just one to be lived politically, in the amphitheatre, in commerce, in academics, at war, at sea, in the fields, in the forest, or in the pantheon, with and because of the gods.

This Greco-Roman understanding thus seems to have treasured a universe that is at once both secular and divine but with roots in divine cosmic forces or deities. Reality was as a result seen as sacred and it was a cosmic sacredness. Many of their deities thus were nature gods actually. These nature gods, albeit did not seem to oblige worshippers to be nature-conservationists, nevertheless gave nature an aura of sacredness. Nature and all life had divine patronage: there was a god of the sun, god of the sea, god of

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1 In my Ganda Culture for example wood from 'Mutwalabafu, Entula ( Solanum Species), and Jjirikiti' couldn't be used for fuel, for cooking.

the woods, a deity for mother earth and fertility, a god for agriculture, a deity for hunting, god of thunder, a deity for fire and volcanic activity, a god for mineralogy, metallurgy and smelting etc. Tyler Lansford (2004) brings home the point by reference to their many gods<sup>2</sup>.

The trouble with the world of today is perhaps a secular recklessness in politics<sup>3</sup>, warfare, economics, forestry, fishing, farming, manufacturing, academics and all aspects of life. And so people for example say and believe politics is a dirty game. Practical life today seems to be devoid of a divine regulator and our God seems to many to be a God of the *hereafter*, yet these ancient peoples had world-wise divinities, and a cosmological religion.

### 4.3 CONSIDERATIONS FROM ISLAM

The very first religious principle Islam attaches to the universe is the belief that the universe is a work of Allah (The First Pillar of Islam). For a Moslem the universe did not come into existence for example by blind forces as those modern science posits in materialistic evolution. The universe according to Islam was created by God.

Then also the birth place, people, culture, climate and social economy of the cradle of Islam gives us what is of ecological value in Islam. The raw material of Islam were the pastoral nomadic peoples of the Sinai Peninsula especially the Bedouins. These proto Moslems in their native environment of the austerity of the desert climate and vegetation, as we may infer from

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2 Literature on ancient Greece and Rome also has the lists, assignments and patronage of these gods: a god of the sun, god of the sea, god of the woods, a deity for mother earth and fertility, a god for agriculture, a deity for hunting, god of thunder, a deity for fire and volcanic activity, a god for mineralogy, metallurgy and smelting etc.

Ceaser E. Farah , were taught an exacting life to guard and conserve the natural resources on which life depends: “scarce water, scanty pasture, treasured oases, the beloved domesticated desert camels and cattle as well as the valuable date palm - that nomadic background and servility of climate, brought into Islam an innate love for nature and the wilderness”. Ceaser E. Farah (1970, p 3.). In fact they developed a social-cultic duty towards animals and in many societies they regard them selves as the ‘rightful butchers’ and this they take as a religious obligation. The animal world in particular is thus in their hands to conserve and to dish selectively and, with a quasi sacred rite, to the rest of humanity.

The hard way of the desert taught them to appreciate the luxuriance found in nature. Their limited diet of dates, milk, and water gave them a determinism that is ultimately ecological, topographical and climatological. They learnt the conservation of the scarce resources of the earth that sustain livelihood. This rigor, bred from the arid and rugged background, actually gave Islam a frugal character as exhibited in fasting, in the day today economics of an ideal Arab-Moslem, and in some of their basic tenets regarding the expenditure of the earth’s resources. We see two such tenets in what are called the fourth and fifth ‘commandments of Islam’: “*being generous but not squandering and avoiding killing except for a justifiable cause*” (Ceaser E. Farah 1970,p. 5).

Islam in its essential beginnings thus teaches us a unique pro-life belligerence and an eco-combative spirit to love and defend nature amidst desertification and aridity.

#### **4.4. CONSIDERATIONS FROM JUDAISM**

Looking at the Old Testament we see Judaism as essentially developing within a cosmic and ecological matrix. Cosmic history

and ecology are basic revealers of the divine in Judaism. The reality and experience of the divine among the Jews is an expression of what they directly read from the book of nature and cosmic history. That is a remarkable theological position for which other religious traditions must turn to Judaism to borrow a leaf.

All the basics and branches of the Jewish religion as well as its development are rooted in the natural world. Jewish systematic theology for example stems from the creation of the universe as the witness of the book of Genesis shows these dogmatic foundations. From the evidence of the created universe the inspired author of Genesis comes to understand the existence of a Creator, Savior and Governor of the entire cosmos and history. Nature and cosmic history taught the Jews to rightly speak about God. ( Ps 19:1-4, Ps 145:10-12, Sir 43:1-6;27-33, Wis 13:1-5, Job 12:7-9).

Judaism (its basic theology, liturgy, ethics, and scripture) and the totality of Judaic existence teach us thus that our understanding of God arises from a religious setting of Covenant with a God who comes to share his divine life with the universe He creates.



## **CHAPTER FIVE**

## **5.0 A CASE FOR ENVIRONMENTAL/ ECOLOGICAL SILENCE**

Silence is very precious also for ecology and environmentalism. Noise thus is now by legislation a pollutant. In Uganda for example, noise regulations are in The National Environment (Noise Standards And Control) Regulations of 21st March 2003 (*Under sections 28 and 107 of the National Environment Act Cap 153*).

### **5.1 NOISE REGULATIONS IN UGANDA**

Section 9 of the Act has prohibitions of generation of noise by place and time and the set of laws under this have the following key considerations:

No person shall emit or cause to be emitted, or permit the emission of noise resulting from any act specified if that noise is clearly audible at the point of reception or in the neighborhood for more than two minutes or is within the prohibited time in a residential area or Noise Control Zone or as determined by the local council.

The acts specifically referred to in the Act include:(a) yelling, laughing, clapping, shouting, hooting, pounding, whistling and singing;

(b) Selling or advertising by shouting or outcry or amplified sound.

(c) Operation of any equipment in connection with construction.

(d) Detonation of fireworks or explosive devices not used in construction.

(e) Operating any auditory signaling device, including but not limited to the ringing of bells or gongs and the blowing of horns or sirens or whistles, or the production, reproduction or amplification of any similar sound by electronic means.

(f) Operating or playing a radio or musical instrument or any electronic device or group of connected devices incorporating one or more loudspeakers, transducers or other electro-mechanism, which is intended for the production, reproduction or amplification of sound.

A local council may permit the operation of an electronic device or loudspeakers or the emission of noise for purposes of creating public awareness, demonstration, religious assembly, political debate, cinematography, musical or other theatrical entertainment, beauty competition, handicraft show, fair, circus, private dance, party, lecture or public hearing.

However the penal regulations of the Act exempt the following:

(a) noise caused by the operation of a loudspeaker or siren for fire brigade, ambulance or police purposes.

(b) Noise caused by emergency measures undertaken to safeguard health, safety or welfare of the people.

(c) Noise caused, or continuance of noise caused by a person as a result of temporary or accidental cause which could not have been prevented by the exercise of due diligence and care on the part of that person.

(d) Noise caused by the horn of a vehicle for the purpose of giving sufficient warning of the approach or position of the vehicle.

(e) Noise caused at or by an educational class or recreation in or around a school, college, university or other educational institution.

(f) Noise caused at or by athletics or sports.

(g) Noise caused at a cultural activity or cultural show, funeral service or rite held between the hours of 6.00 a.m. and 11.00 p. m of the same day in any area.

(h) Noise caused at a marriage ceremony or wedding celebration or ritual between the hours of 8.00 a.m. and 11.00 p. m of the same day.

The regulation also talks of a residential or Noise Control Zone and this refers to ‘a geographical area that encompasses hospitals, schools, residential houses and other institutions that require special considerations for noise control’.

A person who contravenes these regulations commits an offence and is liable to prosecution.

## 5.2 ECOLOGICAL SILENCE

At yet another level of appreciation of quietude is the concept of **ecological silence**. The Christian ecologist John F. Haught captures the concept in these words: “when we stand in silence before creation it is a prayer, an amazement of wonder faced with the mystery of the universe set before us with all its miraculous workings. In silence we learn to raise our hands off whatever manipulation and tinkering we have been doing on the universe. We then allow it to be a world on its own, free of our unrestrained penchant for wresting all mystery and extracting all

there is from it". (John F. Haught 1995, p.63). That is the mind and meaning of ecological silence.

The concept points out a truth already known and practiced by many of us through the Sabbath observance, a ritual observation that now comes into distinguished merit with the idea ecological silence. On that day of rest according to the Judeo-Christian understanding and practice, we do what God did after creating the beautiful world: He rested, (Gen.2:1-3). We too must give ourselves time to rest just in order to look at the inherent beauty the world has in itself. The world is naturally beautiful and many times much of what we do to try to improve on that inherent beauty only makes it polluted and degraded without improving on it actually.

What are we required to do then to employ silence for conservation? "In ecological silence our work is simple: just to fold our hands and merely look at the creation of our gardens, our green parks, our forests, our landscape, our birds, our rivers and seas and see how good they are apart from us." (John F. Haught 1995, p.63). That is very practical; much as it can be very effective. It is indeed very common today for example to see people not only missing Sunday worship but also going on with their regular business activities. We need the Sabbath rest, among other things, for our revitalization - and now conservationists are teaching us that the earth also needs the same rest for the re-generation of its vital energies.



## **CHAPTER SIX: CONCLUSION AND WAY FORWARD**

## THE ROLE OF RELIGION IN THE ENVIRONMENTAL CRISIS

We wish to underline thus the proposal of getting religion more involved into environmental conservation efforts to solve the current ecological crisis. Religion especially Christianity has indeed been involved into environmentalism from the past. In collaboration with the other approaches to environmental conservation seen above, viz, science, politics, non governmental conservation organizations etc, we think religion's potential can be employed more for environmentalism than it has been in the past. We have below, in summary, the following reasons to support this appeal and claim for religion to be a powerful environmental agent:

1. Environmentalism one could rightly say is a fundamentally religious issue. Environmentalism inevitably brings to mind religious questions such as the origin, originator, existence and ultimate destiny of the natural world. There has therefore been a long standing debate between natural scientists and theologians on whether the natural world was created by God or it came about by itself. (Confer the 20<sup>th</sup> century scientific Theories of the big Bang and Evolution vs. religious based explanations such as the Book of Genesis in the Bible)<sup>1</sup>.

2. The Catholic Church, in particular today more than ever before, emphasizes the theological outlook of redemption of humanity that is integral. It incorporates three essential elements in her teaching, viz, humanity, the environment and God and teaches that both humanity and the natural world have God as

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1 Archbishop Cyprian Kizito Lwanga opened with this note in his homily at the COP 15 climate change summit in Copenhagen, 9th December, 2009. The Arch Bishop is the Vice President of the Catholic Church's humanitarian organ, CARITAS. Source: <http://copenhagenclimatecouncil.com>.



their common end. The recently published Catholic Church's official manual (The Catechism of the Catholic Church, 1992) says this in regard to the issue: "For the cosmos, the Word of God affirms the profound common destiny of the material world with humanity..." (Catechism of the Catholic Church, 1992, no. 1046). In the Church's teaching there is now a shift from concentrating on the salvation of the human soul alone to touch also on the destiny of the material universe. There is now a "pastoral care" also for the material universe you could say. (Pope's *General Audience Address*, January 17, 2001, no 1)

Indeed of recent, Pope Benedict XVI has defined and declared that pollution of the environment is a sin. The Supreme Apostolic Penitentiary, the Vatican's topmost holy office in charge of the sacrament of Penance announced this on 14<sup>th</sup> March 2008. This of course follows the Church's long tradition of well structured teaching on environmental conservation.

3. Religion upholds that man is both body and soul, that although human beings are spiritual, they are not pure or disembodied spirits like angels without material bodies. In other words a spiritual or religious person works out his heaven situated on earth. Man's spiritual needs cannot be well attended to when his material needs are not satisfied - it is commonly said for instance that it is hard to preach to an empty stomach.

So religion affirms that its followers have material, bodily needs such as water, air, food and fuel, and these needs cannot be met in an adverse environment. These acute needs actually affect us as Church much as they impact adversely on the rest of humanity. The church thus, together with the rest of humanity must respond with positive action, because "the joy and hope, the grief

and anguish of the men of our time... are the joy and hope, the grief and anguish of the followers of Christ as well" (Vatican II, *Gaudium et Spes*, no. 1). Uganda and the rest of the developing countries are bound to suffer much from environmental degradation because ours are mostly agro-economies and due to poor technology we depend almost entirely on the kindness of weather.

4. Religions are well organized institutions and they have structures already in place whose facilities can be employed by environmentalism and good results can come with minimal cost. The Church for example has institutions like schools from nursery to university levels in which environmentalism can be championed. The Church has also the institution of the family through which many values including environmental conservation can be upheld and passed on effectively. The Church has also many fora in which information can effectively be transmitted. The most prominent forum for the Catholics for example is the Holy Mass and the other occasions of prayer services in which there is ample opportunity to touch even environmental issues.

5. The members of a given religion normally give that religion assent, faith and allegiance. Fortunately, in Uganda at least, many a people belong to some religion and so we can posit that this wealth of religiosity can be tapped to effectively impart the doctrine on environmentalism. Indeed many religions have some constructive teaching on environmentalism.

6. Many environmental pacts, treaties, policies and Protocols have failed due to especially the complex web of international politics, diplomacy, multilateral trade interests and legal

implications involved. A case in point are the many environmental Protocols which up to the most recent ones in Copenhagen December 2009, have always ended in deadlock due to international beauracracy and politics.

In such a situation where ecological legislation and enforcement is complicated and compromise between especially world super powers concerned continues to be elusive, the religious person proposes the alternative appeal to people's consciences. Using the tools of religion such as preaching, prayer, the sacraments and holy writings can effectively change people's environmental attitudes and behavior to yield what Pope John Paul II called "ecological conversion"<sup>2</sup>. This work 'Redeeming the Earth: Religion Healing the Environment' therefore has religious proposals with regard to promoting environmentalism concretely and practically.

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2 Theme of the Pontiff's General Audience, Jan 17th, 2001.

## APPENDIX

### THINGS TO DO<sup>1</sup>

#### **1. INDUSTRIALISTS, by Tamale Joseph S.5, Ssebadduka Stephen S.5, Sserunkuuma Michael S 6 and Kanaamala Vincent S 6.**

Abide by environmental regulations.

Stop over extraction of resources.

Don't pollute.

Don't dump toxic wastes into the environment.

Avoid using and introducing dangerous chemicals into the environment.

Treat all wastes properly

Support conservation programs e.g by corporate social responsibility of investments into forestry.

Promote recycling.

Promote non pollutant fuels.

Treat industrial discharge properly.

#### **2. N. G. O's by Kayanja Morris S 5**

Adopt environmental programs.

Sensitize people on conservation.

Do voluntary conservation work e. g clean up towns

Support conservation policies.

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<sup>1</sup> Contributions from a section of senior five and senior six members ,Bukalasa Seminary.

### **3. ABOUT SWAMPS, by Kiyimba Alex S 5**

Don't dump in them  
Don't reclaim them indiscriminately  
Mind about swamp conservation regulations  
Don't over harvest them.  
Government protect our swamps

### **4. ABOUT THE SOIL by Bukenya Innocent S5.**

Apply good fertilizers  
Mulch it  
Grow leguminous plants to restore fertility.  
Crop-rotate and crop-cross  
Plant trees

### **5. ABOUT ANIMALS, by Kabaalu John Bosco S5**

Don't over hunt them  
Domesticate some  
Use economically/profitably  
Conserve their habitats  
Appreciate their value

### **6. ABOUT THE AIR by Matovu Patrick S5**

Don't pollute it with dangerous gases.  
Plant trees; they clean the air  
Control especially industrial emissions  
Control car exhaustions  
Avoid burning because it emits bad chemicals into air

## **7. THE VILLAGE/COMMUNITY by Kiyega Denis S5**

Village/Community leaders sensitize people

Village/Community leaders legislate effectively about conservation

Village/Community members participate in conservation work

In your communities diversify fuel types; don't use firewood alone.

Plant trees as a village/community

## **8. OUR HOMES, by Mwanje Athanasius S5**

Mind about water sanitation in the home

Clear bushes around

Mind about latrine hygiene

Handle rubbish issues properly e. g sort it, decompose it, recycle it etc.

Sensitize members at home

Use proper methods of farming

## **9. ABOUT FORESTS, by Kalyango Charles S 5.**

Avoid deforestation.

Afforestate.

Don't burn them.

Use other sources of fuel, alternatively, apart from wood.

Legislate and follow laws about forests.

## **10. ABOUT WATER, by Kijjambu Ronald S 5**

Don't dump garbage in water

Plant trees to improve on rainfall

Don't settle near water to save water ecosystems

Use water economically.

Avoid all pollution of water.

### **11. SCIENTISTS, by Kifamunyanja Brian S5**

Research and invent environmentally harmless products  
Breed up new plant varieties that can withstand or adapt to climate changes.

Control pests with minimal chemical use.

Help society manage wastes better.

### **12. NATIONAL PARKS AND GAME RESERVES, by Ssekyewa Timothy S 5**

Avoid encroachment on them

Breed and control species in the wild

Conserve habitats in the parks

See to it that uncontrolled extinction of species doesn't occur.

### **13. ABOUT RIVERS, by Kasumba G.W S 5**

Don't dump into them

Don't over extract resources from them

Plant more trees to improve on the rain cycle and water levels

Legislate about rivers in the environment

Act on specific hazards, e. g the water hyacinth

### **16. (GARDEN) PLANTS IN GENERAL, by Muwummuza Pious S5**

Space them well to access water, air, sunlight, nutrients etc

Prune them well for high yields and beauty

Control weeds which compete with them

Control pests

Irrigated them

**17. ABOUT FOOD IN GENERAL, by  
Asiimwe Joseph S 5**

Preserve it well e.g by smoking, sun drying etc

Dispose off properly all stale food.

Raw food must be well prepared before eating.

Don't use all swamps and forests for cultivation.

Variagate and rotate food crops for a balanced diet,  
and in order not to ruin the soil.

Don't over process food; the more natural the better.

Ensure that food is in adequate supply to meet  
demand every where.

**18. RELIGION, by Mwanje Rogers S5**

Teach and preach against environmental degradation

Get involved into practical conservation work as religious  
institutions, e g planting trees

All religions to work together for environmentalism

Mobilize their subjects to participate into conservation  
activities

**19. LAND USE, by Kato Ssebuuma Benedict S5**

Practice terracing, afforestation, etc to avoid erosion.

Use good methods of farming to ensure good production from  
land

Don't pollute the soil

Don't reclaim all swamps and other gazetted areas for economic  
activity

Ensure that land is equitably distributed.

**20. TOWNSHIPS, by Luyima Matthias S5**

Care about water and toilet sanitation



Avoid reclaiming wetlands to expansions  
Prohibit pollution from vehicles and factories.  
Plant more trees and create ‘green parks’.  
Manage garbage properly.

## **21. ABOUT TREES, by Nasaira John Mary S5**

Plant them  
Don’t cut them indiscriminately  
Exploit them economically (i.e measuring well the impact).  
Plant quick maturing trees  
Replace cut trees

## **22. BUSINESS PEOPLE, by Mwesigwa Fred S5 and Ssekalema JB S6.**

Manage wastes and litter properly e.g at shops etc  
Go in for eco-friendly products.  
Promote recycling.  
Optimize on use of eco-friendly and energy saving fuels.  
At all levels trade/economic interests should never overwhelm  
conservation concerns.

## **23. THE NATION/STATE, by Nahabwe Joseph S5**

Legislate effectively on conservation  
Should be environmentally patriotic  
Encourage environmental efforts e.g through funding  
Promote the conservation efforts of NGO’s  
Collaborate with the international community in the campaign  
for environmental conservation.

## **24. BIRDS, by Ssenyange Joseph S5**

Conserve them.

Care about rare types and those species at the verge of extinction.

Protect their habitats.

Appreciate their economic value.

## **25. GOD, by Kibirige Peter Kabuye, S6**

He created man with wisdom and duty to care about creation

Continues to provide for and sustain nature into being.

He is the author of all leadership and guidance even for environmentalism

He calls us to be responsible for his creation.

## **26. AGRICULTURALISTS, by Matovu Henry Paschal S6**

Focus on agro-forestry

Proper use of fertilizers

Safe use of agro-chemicals

Guard against soil pollution.

Practice proper methods of farming and soil conservation

## **27. POLITICIANS, by Ndawula Aidan S6**

Involve as many relevant stake holders as possible,

eg NGO's, opposition politicians etc.

An effective ministry charged with environmentalism

Sensitize the masses about conservation

Include environmentalism in government programs and especially on education curricula.

Control pollution.

## **28. TRADITIONAL CULTURE, by Ssemyalo S6**

Promoting indigenous species.

Appreciate the use of the natural environment e. g for herbs, food etc.

Mobilize masses along cultural lines for environmentalism.

Make use of traditional wisdom e. g proverbs, taboos, customs, etc that treats conservation issues. There are taboos for example forbidding cutting certain trees or hunting a particular animal.

Discourage bad cultural mentalities and practices that violate environmentalism. (The Ganda for example should discourage sayings like 'Ennyanja tenoga' i.e that the sea is too big to get circulated with impurities at all. The saying is employed much by people as they carelessly dump wastes into water bodies).

## **29. THE INTERNATIONAL COMMUNITY (U.N, A.U etc), by Ssekidde Mathias S6**

Oversee environmentalism all over the world.

Promote national programs on conservation

Legislate about conservation

Regulate international politics and trade interests in favor of environmentalism.

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