

6-2-2014

# Deforestation and the Islamic Stewardship Ethic

Misbah Alghamdi

Follow this and additional works at: <http://scholarworks.rit.edu/theses>

---

## Recommended Citation

Alghamdi, Misbah, "Deforestation and the Islamic Stewardship Ethic" (2014). Thesis. Rochester Institute of Technology. Accessed from

This Thesis is brought to you for free and open access by the Thesis/Dissertation Collections at RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact [ritscholarworks@rit.edu](mailto:ritscholarworks@rit.edu).

Rochester Institute of Technology

**DEFORESTATION AND THE ISLAMIC STEWARDSHIP ETHIC**

By Misbah Alghamdi

June 2, 2014

Thesis submitted in partial fulfillment of the requirements for the degree of  
Master of Environmental Health and Safety Management

Department of Civil Engineering Technology,  
Environmental Management & Safety  
Collage of Applied Science and Technology  
Rochester Institute of Technology  
Rochester, NY

Approved by:

\_\_\_\_\_  
Todd Dunn, PE, Chair  
Civil Engineering, Environmental Management and Safety, RIT

\_\_\_\_\_  
Date

\_\_\_\_\_  
John Morelli, PhD, PE  
Professor and Thesis Advisor, RIT

\_\_\_\_\_  
Date

\_\_\_\_\_  
Muhammad Shafiq, PhD  
Professor and Executive Director, The Hickey Center for  
Interfaith Studies and Dialogue, Nazareth College

\_\_\_\_\_  
Date

\_\_\_\_\_  
Md Abdullah Al Faruque, PhD  
Assistant Professor, RIT

\_\_\_\_\_  
Date

## **Abstract**

Forests throughout the world continue to be in danger as a result of human activity. Although the average rate of deforestation has recently slowed, in some countries the rate of forest degradation remains high. Currently, numerous management efforts are underway to address this environmental crisis. In some cases the achievement of forest preservation has been related to ethical choices. One moral posture, anthropocentrism, which views human beings as central and the most significant species on the planet, is believed to be a primary cause of environmental degradation includes deforestation.

This paper aims to address deforestation with the reconfiguration of an ethic of environmental stewardship. Environmental stewardship is outlined as the sustainable and accountable consumption of natural resources that takes a full and balanced account of the interests of society, future generations, and other species. A religious interpretation would require the phrase “and ultimately to God” to be added. Environmental stewardship is, as a rule, based on an ecocentric model of morality (with the environment as the focal point); however it can also be based upon a theocentric model (God is at the center). Theo-centric ethics include the idea of accountability to God and are driven by religious faith, where God the creator and sustainer of the Earth.

As indicated by the teachings of Islam, the individual has a critical role in the protection of natural resources and the assets of the environment, which can also be described as fulfilling the role of God’s vice-regent, trustee or steward on Earth. Such perspective can provide a functional guide to the preservation of natural resources, wildlife and forests. The idea that the

concept of stewardship can be found in diverse philosophies and religions does not diminish its significance or its critical importance to all like on the planet. In fact, it can encourage Muslims and non-Muslims alike to safeguard the natural world that has been entrusted to everyone. This is a universal notion of protecting t the ecosystem with which almost everyone can concur.

**Key words:** Deforestation, forest degradation, environment, environmentalism, nature, ethic, moral, philosophy, stewardship, anthropocentrism, eco-centrism, theo-centrism, God, Islam, Islamic, khlifa, caliph.

### **Acknowledgment**

I would to express my appreciation for the assistance provided by my supervisor professor John Morelli , and to the committee members Dr.Muhammad Shafiq and Dr.Abdullah Al Faruque for their valuable and constructive advice and suggestions during the planning and development of this thesis work. My special thanks go to the staff of the environmental health and safety program of RIT, as well to my family and friends.

## Table of Contents

1. Introduction.....	7
1.1. The Logjam of Deforestation.....	7
2. Causes of Forest Loss.....	9
2.1 Demand for Wood.....	10
2.2. Conversion to Agriculture.....	11
2.3. Conflict Over Land Tenure.....	11
2.4. Illegal Logging and Corruption.....	13
2.5. Industrialization, Urbanization, and Infrastructure.....	14
2.6. Economic Poverty; No Alternative Livelihoods.....	16
2.7. Lack of Political Will, Poor Central Planning, and Inadequate Capacity.....	17
3. Analysis.....	19
3.1. Environmental Ethics.....	19
3.2. Examples of Forest Management Ethics.....	20
3.3. Environmental Stewardship Philosophies.....	31
3.4. Environmental Ethical Philosophies (moving beyond anthropocentrism toward eco- centrism and theo-centrism).....	34
3.5. The Islamic Ethic of Stewardship.....	37
4. Conclusion.....	44
References.....	45

## **List of Figures**

Figure 1. Top 10 Countries with Forest Loss .....	10
Figure 2. FSC Logo.....	27
Figure 3. The Eco-Centric Model.....	32
Figure 4. O’Riordan’s View to Show the Theocentric Model .....	33

## **List of Tables**

Table 1. Management, Harvesting, Sale, and Land Tenure Rights Under Forest Governance Regimes in Nepal .....	25
Table 2. Examples of the Wide Use of the Term Stewardship in Land Use and Conservation Literature.....	28
Table 3. Comparing Centers of Value in Relation to Their Utility in Environmental Conservation and Example of Ethic Implication .....	37

## 1. Introduction

### 1.1. The Logjam of Deforestation

Forests cover around 31% of the Earth's land.<sup>1</sup> Each year, forest loss reaches 13 million hectares, according to an estimate by the Food and Agriculture Organization of the United Nations (FAO).<sup>2</sup> Forty percent of the remaining forests are in danger because of human action. Forests are also being damaged by natural disasters like volcanic eruptions or intense mud slides. In many cases, these forests cannot be naturally regenerated.<sup>3</sup> While this paper will not discuss the natural loss of forests, it will explore the man-made activities that lead to reduction of forest cover, as well as the actual ethical efforts that can be taken to combat deforestation.

It is important to understand that forests are the home of many species of plants and animals, and they provide a home to around 1.6 billion people, who are relying on forest's benefits to live. Forests are providing food, clothing, fresh water, medicine, and shelter, and are they are a natural source of oxygen for livings in general. In fact, many species are in danger due to deforestation.<sup>4</sup> In order to control deforestation, it is important to know the main causes of the cutting down of forests and to follow successful examples of forest management.

The rate of deforestation has been elevated in many places around the world because of people's activities, especially in European lands that have been cleared over the last 8,000 years, in order to accommodate for farming and building.<sup>5</sup> Even though across the globe, the average speed of deforestation has been slowing down recently, in some countries, like Brazil and

---

<sup>1</sup> "Deforestation Threats," *WWF*. <https://worldwildlife.org/threats/deforestation>. (Accessed February 10, 2014.)

<sup>2</sup> "Forest Losses and Gains: Where do We Stand?,10" *WWF*. <http://www.unep.org/vitalforest/Report/VFG-02-Forest-losses-and-gains.pdf>. (Accessed February 10, 2014.)

<sup>3</sup> "Forest Losses and Gains" 10.

<sup>4</sup> "Deforestation Threats."

<sup>5</sup> Richard Spilsbury, *Can the Earth Survive? Deforestation Crisis* (New York: Rosen, 2010), 6.

Indonesia, the rate of forest loss is still high.<sup>6</sup> Many management models are seen nowadays to manage this kind of environmental crisis. In some cases, the real accomplishment of preserving forests can be attributed to ethical choices.<sup>7</sup> Going deep to the root causes of deforestation, then understanding how to solve the causes ethically can be the key to combat the issue of excessively cutting down trees.<sup>8</sup>

Some people believe that the separation between the earthly living world and religion can be a reason for many environmental crises. They also believe religion is the key root of the existence of earth and its resources come from God. Religions help us to shape our attitude toward the environment. They also help us to understand how, through our control over the earth's resources, we ought to treat other humans, and in what way we should communicate with the nature.<sup>9</sup>

In this way, religions modify the views and beliefs of the world, which motivate basic approaches and values of diverse cultures and societies. Religious morals and ethical values form activities toward others, along with our relationship with all the surrounding living creatures like plant and animal life.<sup>10</sup> According to Abedi-Sarvestani and Shahvali:

Since environmental ethics is [are] essentially based on intrinsic value and beliefs, religions have been getting more recognized to define proper environmental ethics

---

<sup>6</sup> Spilsbury,7.

<sup>7</sup> Duncan Macqueen, "Forest Ethics: The Role of Ethical Dialogue in the Fate of the Forests," *IIED*. 4. <http://pubs.iied.org/pdfs/13511IIED.pdf>. (Accessed February 10, 2014.)

<sup>8</sup> Fiu Mata'ese Elisara-La'ulu, *Getting to the Roots: Underlying Causes of Deforestation and Forest Degradation, and Drivers of Forest Restoration* (Samoa: 2010), 2, <http://www.globalforestcoalition.org/wp-content/uploads/2010/11/Report-Getting-to-the-roots1.pdf>. (Accessed February 10, 2014.)

<sup>9</sup> Ahmad Abedi-Sarvestani and Mansoor Shahvali, *Environmental Ethics: Toward an Islamic Perspective* (2008), 612, <http://www.idosi.org/aejaes/jaes3%284%29/15.pdf>. (Accessed February 10, 2014.)

<sup>10</sup> Abedi-Sarvestani and Shahvali, 612.

mainly because they try to illuminate what possessed intrinsic value and also what is the criterion for evaluating a behavior toward nature as [a] moral one.<sup>11</sup>

Religion has received considerable attention with respect to environmental protection due to the critical examination of science and technology by Sarvestani and Shahvali.<sup>12</sup> As with Christianity and Judaism, in Islam, taking care of the environment is an important matter of concern.<sup>13</sup> But few believe that these religions are mainly anthropocentric and consider nature as a secondarily important thing.<sup>14</sup> Supporters of these religions could say that the specific attributes of humans do certainly place them on a separate plane from other creatures; however, the Islamic religion requires humans to have a special concern toward the natural environment through accountability to God. Such accountability will not overlook probable consequences to other living organisms when making decisions for the wellbeing of the environment. Before exploring the Muslim ethics that are possibly related to the problem of forest loss, it is essential to first identify the main causes that bring people to cut down trees.<sup>15</sup>

## **2. Causes of Forest Loss**

It is possible to develop approaches to deal with the difficult task of deforestation and forest degradation and to promote forest conservation and restoration by examining and understanding the real elementary causes of forest loss. These include the demand for wood and the conversion to agricultural land. The weakness of supporting cultural values, indigenous rights of responsibility to land, and community-conserved areas also contribute to the cause of forest loss.<sup>16</sup> Deforestation is not the blame of a single country, but is an issue shared by many

---

<sup>11</sup> Abedi-Sarvestani and Shahvali,609.

<sup>12</sup> Abedi-Sarvestani and Shahvali,613.

<sup>13</sup> Abedi-Sarvestani and Shahvali,613.

<sup>14</sup> Abedi-Sarvestani and Shahvali,613.

<sup>15</sup> Abedi-Sarvestani and Shahvali,613.

<sup>16</sup> Elisara-La'ulu, 2.

countries. At the beginning of the 21<sup>st</sup> Century, the top 10 countries with the highest rate of deforestation are shown in Figure 1. According to the figure, forest loss is happening quickly in Brazil, double the rate of forest loss in Indonesia, the second-place country with the highest rate of forestation.<sup>17</sup>

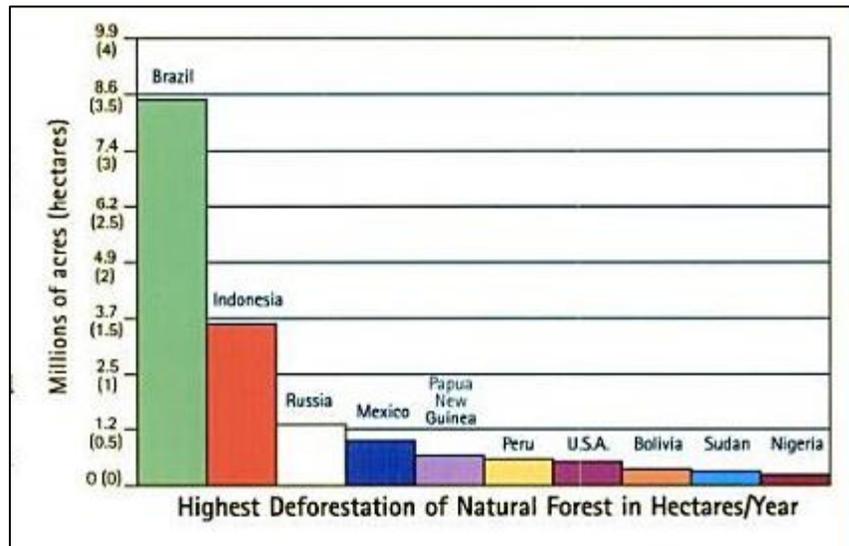


Figure 1. Top 10 Countries with Forest Loss.<sup>18</sup>

## 2.1. Demand for Wood

The high need for wood is the main cause of deforestation. This occurs by the consumers of forests; such as, industrialized countries, as well by the domestic community who use forests as an easily accessed resource of fuel.<sup>19</sup> It is believed that around one half of illegal timber logging is due to fuel wood demand. Wood is used for cooking and heating all over the world.<sup>20</sup> Also, wood is used for house building, paper manufacturing, and furniture construction. Burning wood to make charcoal, which can be used as fuel, is another reason for wood consumption in various countries. These countries, have almost a daily electricity outage, especially the poor

<sup>17</sup> Spilsbury, 7.

<sup>18</sup> Spilsbury, 7.

<sup>19</sup> Elisara-La'ulu, 7.

<sup>20</sup> "Deforestation Threats."

countries, such as Ethiopia, Kenya, Nepal, and Georgia, where people store wood and buy it as an emergency fuel supply. In other countries, like Cameroon, the need for cutting down forests is for processing outfits that require the regular request of raw materials in the form of wood.<sup>21</sup>

## **2.2. Conversion to Agriculture**

Because of the ongoing growth of the human population, there is clearly a need for nutrition. The need of nutrition stimulates the conversion of forests to farm and pasture land.<sup>22</sup> It can be seen that in many countries, such as Bangladesh, Cameroon, Colombia, El Salvador, Ecuador, Indonesia, Kenya, Nepal, Papua New Guinea, Paraguay, and the Philippines, the main drivers of deforestation are industrial tree plantations, industrial agriculture, cattle ranching, and planting of oil palm.<sup>23</sup> For instance, cattle ranching is the major driver of 73% of Amazon forest loss in Brazil.<sup>24</sup> In some countries, the planting of exotic species or the converting of forest to agricultural land in order to generate personal wealth or for export to industrialized countries can cause forest degradation, and this negatively affects the livelihood of forest dwellers.<sup>25</sup> Sadly, the moment that a forest is lost to agriculture, the land mass typically is accompanied by of the loss of the flora and animals that once lived there.<sup>26</sup>

## **2.3. Conflict Over Land Tenure**

A major factor that causes deforestation and conflict in Ghana, Cameroon, Bangladesh, Tajikistan, and the Philippines is a constant uncertainty over land rights. Indeterminate land tenancy and rights of the original forest inhabitants is the most important issue. The indigenous people have taken care of the forests for centuries. Despite this, the same people who protected

---

<sup>21</sup> Elisara-La'ulu, 7.

<sup>22</sup> "Deforestation Threats."

<sup>23</sup> Elisara-La'ulu, 8.

<sup>24</sup> Elisara-La'ulu, 10.

<sup>25</sup> Elisara-La'ulu, 8.

<sup>26</sup> "Deforestation Threats."

the forests are not given any consideration by the governments, and they are sometimes displaced violently.<sup>27</sup>

As the forests have increased in value, with investors having vested interests, this has led to the setting up of protected areas of the forests. The use of protected areas as a conservation measure of forests was highly condemned in Colombia. They claimed that this has never worked for the last two decades. On the other hand, in Philippines, it has been claimed that the issue of protected areas was just a pretense in the name of forest conservation, whereas it went against the rights and privileges of the indigenous people to occupy and move freely in the forest. Consequently, these forest restrictions have led to a reduction in the traditional learning of how to protect forests.<sup>28</sup>

Some countries have arising issues in the laws concerning ownership and the right to live in forests as what has been constitutionalized. For example, in Ethiopia, the terra nullius principle considers unoccupied lands not to be owned and can be given to anyone. “Unoccupied,” in this case, is undefined and can, as well, mean community forests, and the case is the same in the Philippines where indigenous forests are regarded as government property or public land under Presidential Declaration 705.<sup>29</sup>

In this case, indigenous people are deprived of their traditional duty to develop, protect, and foster forests and this can also lead to land grabbing by the government. This results in a loss of cultural practices among young people, as they move to urban areas where the character of their traditional agricultural life is eroded by urban life. In Columbia, issues of mining exploitation and hydrocarbon extraction have been discussed as other ways that have displaced

---

<sup>27</sup> Elisara-La’ulu, 11.

<sup>28</sup> Elisara-La’ulu, 12.

<sup>29</sup> Elisara-La’ulu, 12.

indigenous people from their traditional boundaries. This is regarded as an excessive violation of these people's rights and privileges.<sup>30</sup>

The laxity seen from the indigenous people and also from local authorities to come up with strategies and bodies of protecting and conserving forests is somehow not surprising. This has been a common problem, even after the development of the reducing emissions from deforestation and forest degradation (REDD) pilot project, which was thought to be of benefit to indigenous people.<sup>31</sup>

The REDD in developing countries is a climate change (CC) alleviation technique that manages the present crisis of the environment via promoting the forests' value. By all means, forests are the home of millions of indigenous peoples who overwhelmingly believe, themselves, in a non-commended status. International and national laws and rules have been put into place to ensure that the indigenous people's rights are provided for to assure a good relationship between these people and the natural environment.<sup>32</sup>

#### **2.4. Illegal Logging and Corruption**

Corruption is a vice that causes a lot of evil both in developing and developed economies. Illegal logging and corruption is noted to be one of the factors that has caused deforestation. The lack of alternative livelihoods, economic and fuel poverty, together with corruption, has led to the clearance of forests for purposes of economic interests. Bribery of officials, as a form of

---

<sup>30</sup> Elisara-La'ulu, 12.

<sup>31</sup> Elisara-La'ulu, 12.

<sup>32</sup> "The Crossing Point between REDD and Indigenous Peoples' Stewardship Rights: An ethical perspective, *University of Oslo Faculty of Law*, 2010, 4. <https://www.duo.uio.no/bitstream/handle/10852/22655/MasterxThesis.pdf?sequence=1>. (Accessed February 10, 2014.)

corruption, is very prevalent in many parts of the world, and it is a major obstacle in the realization of forest conservation through various measures.<sup>33</sup>

Laws have been formulated in Bulgaria, El Salvador, Ghana, Kenya, Panama, Indonesia and Papua New Guinea but, due to lack of financial resources and lack of political commitment, their implementation has been a challenge.<sup>34</sup> There are national legislations worldwide for controlling the timber production and trade process from the harvesting to the processing to the sales of wood. At any moment, these legislations can be violated. It is possible to harvest more wood than is permitted or to remove trees from protected areas.<sup>35</sup> Corruption has been widespread as licenses to cut down trees have been improperly issued in defiance of both national and international laws that aim to protect ecosystems and certain species. Local leaders are also bribed to accept this move.<sup>36</sup>

## **2.5. Industrialization, Urbanization, and Infrastructure**

There are other factors that have been noted to cause global deforestation. These include: industrialization, urbanization, and the development of modern infrastructure. Economic development is seen as a good move across the globe, but these developments do not seem to shift toward care for the environment—despite alerts raised by communities and the civil society.<sup>37</sup>

In some countries, economic developments are seen as some of the reasons that obstruct community initiatives aimed at protecting forests. Take for example a country like India, whereby the initiatives by the local communities to protect forests is hampered by the government, which allows the private and public sector to set up roads, mines, and other

---

<sup>33</sup> Elisara-La'ulu, 16.

<sup>34</sup> Elisara-La'ulu, 16.

<sup>35</sup> "Deforestation Threats."

<sup>36</sup> Elisara-La'ulu, 16.

<sup>37</sup> Elisara-La'ulu, 12.

development projects in any location. The government has not put into consideration the benefits that the community derives from the forests; rather, it has worked to promote these organizations in setting up development projects. The Indian government has even relaxed its look out for the violations of environmental laws and guidelines by these companies.<sup>38</sup>

Mining, oil, and gas exploration in Colombia, Cameroon, India, Bangladesh, and the Philippines were some of the notable industrial processes causing threats to forests. Oil exploration in the Sylhet region in Bangladesh was one of the examples cited. Forests are being cleared to pave the way for industrial projects like the building of roads, dams, houses, dams, and other large construction projects. The Karnaphuli hydro-electric project and Kaptai dam are some examples of these development projects in the Chittagong Hill Tracts in Bangladesh that cause hill deforestation. Bangladesh has also noted the issue of clearance of forests for purposes of military use, while urbanization was identified to cause deforestation in countries such as Kenya, Bulgaria, and El Salvador. There is a notable population increase in most parts of the world and, therefore, there is a higher demand for farm land, construction of houses, and the building of roads, and this has led to the clearance of forests. High demand for timber in Cameroon, Kenya, Nepal, Ethiopia, and Panama was also noted to cause deforestation in these countries.<sup>39</sup>

In Colombia, Panama, and the Philippines, it was noted that ecotourism has also led to deforestation, but this was a contentious factor because the type of tourism within the ecotourism subsector should be indicated. This was because ecotourism was thought to promote reforestation.<sup>40</sup>

---

<sup>38</sup> Elisara-La'ulu, 12.

<sup>39</sup> Elisara-La'ulu, 13&14.

<sup>40</sup> Elisara-La'ulu, 14.

The enforcement of laws that govern deforestation, logging, and charcoal trade should be achievable if there is a good road network within the forest. This was one of the main obstacles identified in Kenya. The road network that borders Maasai-Mau in Narok South is impassable during the rainy seasons and this gives an avenue to loggers, who donkeys, to ferry logs to locations where they can easily sell them to customers.<sup>41</sup>

## **2.6. Economic Poverty; No Alternative Livelihoods**

Poverty is one of the major issues that has created problems at both national and international levels. People need money to support their families and bring up their children but without economic alternatives, they resort to the forests. This is the case in the Amazonian area of Ecuador. Timber is sold at low prices to get money to provide for families because there is no other source of employment. Globally, jobless youth prefer to look for money from forests through the selling of timber or through farming practices. Illiteracy has played another significant role in deforestation. This is because illiterate people have less opportunity to find alternative livelihoods so as to reduce their reliance on forest resources.<sup>42</sup>

Deforestation has also been triggered by economic crisis, especially in the third-world countries. Take for example, Cameroon, where many workers were laid off by agro-industrial companies hence resulting in unlawful exploitation of the forests to meet their economic and financial needs.<sup>43</sup>

The population of Georgia has been on the rise, and this has led to increased dependence on the forests. Forest resources have been exploited due to the population increase with no notable change in the economic status of the country. Many poor people living near the forest have benefited from forest products, which are in high demand. This notwithstanding, facts have

---

<sup>41</sup> Elisara-La'ulu, 14.

<sup>42</sup> Elisara-La'ulu, 17.

<sup>43</sup> Elisara-La'ulu, 17.

shown that these poor communities living near the forests have lost their control to other influential interests, such as companies involved in logging and migrant workers who benefit more from the forests.<sup>44</sup>

## **2.7. Lack of Political Will, Poor Central Planning, and Inadequate Capacity**

The major challenges facing forest conservation include: absence of upright governance and effective central organization. Problems related to inadequate capacity and the lack of governmental concerns are among the major factors contributing to the high rise in forest degradation and deforestation. These factors were a little dissimilar in various countries. In the case of Georgia, a small number of government leaders had basic knowledge in sustainable forest management. There was a weak administration dealing with forest management organization, and the state had taken control of all the forest assets and the organization. The sector was not given enough money to maintain the forest and to ensure sustainability. In addition, Georgia had an insufficient and weak lawful background.<sup>45</sup>

The Panamanian workshop pointed fingers at the government for its failure to set clear policies regarding various issues that affect forest conservation. These issues include: tactical development in societies and areas, economic evolution of the Kuna regions, watching of events that take place in forests, and preservation of ancestral home-grown territories.<sup>46</sup>

A workshop in India highlighted issues to deal with weak control mechanisms, lack of proper planning from the government, and limited financial allocations. These issues resulted in the lack of capacity to deal with forest destructions, forest mafia, and industrialization processes,

---

<sup>44</sup> Elisara-La'ulu, 14.

<sup>45</sup> Elisara-La'ulu, 14.

<sup>46</sup> Elisara-La'ulu, 14.

showing some laxities from the Ministry of Environment and Forestry, and State Forest Departments.<sup>47</sup>

There are no municipal regulations that govern forest activities in El Salvador. The state policy and the legislation for environmental care still allow for the construction of projects that result in deforestation. There is another concern in Panama on the policymaking organizations. The private and the public sector have both failed in their duty to restore forests.<sup>48</sup>

The political class also can be to blame for global deforestation. This could be due to several factors, which include inadequate equipment, poor management of forests, and use of out-of-date husbandry.<sup>49</sup>

Some governments are not ready or do not have the capacity to enforce some of the regulations governing forests and other national laws that deal with environmental protection. This is more so true when big national projects are in question or when there is a competition between the palm oil and forestry sectors, as in a case in Ecuador, the society wanted to take care of the forests while the Environment Ministry still allowed exploitation—even in areas that had been protected.<sup>50</sup>

This negligence, together with corruption, may result in a lack of trust of authorities by the local communities, thus, making the management of forests and other related discussions very hard to undertake. Since the local communities are not consulted, they do not have relevant information about the management of forests and the policies that govern the same. Therefore, if the global forests have to be reinstated, some of these impediments have to be overcome.<sup>51</sup>

---

<sup>47</sup> Elisara-La'ulu, 15.

<sup>48</sup> Elisara-La'ulu, 15.

<sup>49</sup> Elisara-La'ulu, 15.

<sup>50</sup> Elisara-La'ulu, 15.

<sup>51</sup> Elisara-La'ulu, 15.

The scope of stewardship is especially pertinent in connection with international environmental law. This happens due to the gradual emergence of a new ethical approach toward environmental regulations, and it can be recognized in some trends in international and national legislation. Actually, most of the analysts see the ethic of stewardship as a useful way to solve various challenges facing the environment.<sup>52</sup>

This study examines the development of a societal attitude toward stewardship to potentially address and combat the problem of deforestation. This study examines the application of the Islamic ethic for stewardship in both Muslim and non-Muslim regions.

Deforestation occurs due to many factors, including conversion to agriculture, conflict over land tenure, illegal logging, and corruption. Industrialization, urbanization and infrastructure, economic poverty, no alternative livelihoods, and the lack of political will also contribute to the overharvesting of trees. Poor central planning and inadequate capacity make this an even greater issue, which needs an ethical response.

### **3. Analysis**

#### **3.1. Environmental Ethics**

Ethics is a discipline that deals with the finding of approval and disapproval. Ethics, as a study, has attracted a lot of attention in the academic field, especially in philosophy. The judgments made in ethics include distinguishing the following: a right and wrong deed, bad or good actions, desirable or undesirable qualities, desirability and good judgment of deeds, and the states of dealings, nature, ends, and items.<sup>53</sup>

---

<sup>52</sup> “The Crossing Point”, 4.

<sup>53</sup> Robert Manning, William Valliere, and Ben Minter, “Values, Ethics, and Attitudes Toward National Forest Management: An Empirical Study.” *University of Vermont*, 1999, 422, [http://www.uvm.edu/parkstudieslaboratory/publications/Values\\_Ethics\\_and.PDF](http://www.uvm.edu/parkstudieslaboratory/publications/Values_Ethics_and.PDF). (Accessed February 10, 2014.)

Environmental ethics deals with ways in which human behavior affects the natural environment surrounding the humans. In normal life, human beings interact with the environment as they undertake their day-to-day activities. Environmental ethics can also be defined as various ways of maintaining a good relationship between the environment and the human beings.<sup>54</sup> In this sense, forest ethics also deal with ways in which human behavior affects natural forest surrounding the human beings.<sup>55</sup> This is an appropriate definition that suits this study. One of the ways of maintaining a good relationship between the environment and human beings is by making people understand that it is their religious duty to protect and take good care of the environment. There should be rules and regulations that govern the interaction between the natural environment and such rules can be found in religious scripture.<sup>56</sup>

### **3.2. Examples of Forest Management Ethics**

Forests are an important portion of life for people who live in and around them. Forests provide many of our material needs, and they are useful for many various reasons, not the least of which is enjoyment. Given that forests provide so many services, they have “a number of passive and active use values: economic, ecological, social, symbolic, spiritual, and scientific values.”<sup>57</sup>

For more than 25 years, there have been a number of concerns relating to forests, forest management, and forestry that have emerged and attracted much attention all over the world. The development of these concerns indicates recently that forestry should not only be economically,

---

<sup>54</sup> Manning et al, 422.

<sup>55</sup> “Forest Ethics.” *Society of American Foresters*, [http://encyclopediaofforestry.org/index.php/Forest\\_Ethics](http://encyclopediaofforestry.org/index.php/Forest_Ethics). (Accessed February 10, 2014.)

<sup>56</sup> Manning et al, 422 &426.

<sup>57</sup> Christian Gamborg, *Sustainability and Biodiversity: Ethical Perspectives on Forest Management* (Hørsholm: 2001), 3, [http://curis.ku.dk/ws/files/13035957/Christian\\_Gamborg.pdf](http://curis.ku.dk/ws/files/13035957/Christian_Gamborg.pdf). (Accessed February 15, 2014.)

ecologically, environmentally, and socially reasonable, but it should also be ethically acceptable.<sup>58</sup>

Ethical apprehensions are affected by people's beliefs concerning nature, the value of nature to human life, and the role of human beings in our use of the environment. People's recognition of the different goals and approaches in forest management is interrelated with the related values that individuals embrace.<sup>59</sup>

### **3.2.1. Brazil**

The Brazilian government introduced laws through the Brazilian Institute for the Environmental and Renewable Natural Resources (IBAMA). The rules and laws implemented were to help prevent illegal cutting of trees by the citizens. Failure to adhere to such rules could lead to severe punishment of the law breakers.<sup>60</sup>

The immense changes in the Brazilian policies played a very crucial role in reducing the level of deforestation in the country. This is one of the most efficient ways of conserving the environment. This is according to the research conducted by CPI/PUC-Rio, which presented the issue of policy change impact on environmental conservation as empirical evidence.<sup>61</sup>

The Real-Time System for Detection of Deforestation (DETER) is a satellite-based technology that helped in the identification of deforestation actions in Brazil. This monitoring technique played a key role in ensuring that the environment was conserved and protected from harmful human actions. The IBAMA, with the assistance of DETER was able to easily locate

---

<sup>58</sup> Gamborg, 4.

<sup>59</sup> Gamborg, 16.

<sup>60</sup> "Deterring Deforestation in the Amazon," *Brazil Works*, 2013, <http://www.brazil-works.com/deterring-deforestation-in-the-amazon/>. (Accessed March 17, 2014.)

<sup>61</sup> "DETERing Deforestation in the Brazilian Amazon: Environmental Monitoring and Law Enforcement, Climate Policy Initiative," 2013, <http://climatepolicyinitiative.org/publication/deterring-deforestation-in-the-brazilian-amazon-environmental-monitoring-and-law-enforcement/>. (Accessed March 16, 2014.)

deforestation activities taking place in Brazil. Punishment to the people cutting trees illegally was done in a more effective way than before DETER was introduced.<sup>62</sup>

Studies show that the introduction of DETER played a crucial role in environmental conservation in various ways. It allowed for the easy locating of areas where deforestation activities were taking place. With easy location, monitoring and target ability was greatly improved and, hence, the government officials could efficiently control deforestation without having to put more effort into discovery.<sup>63</sup> In 2004, the Action Plan for Prevention and Control of Deforestation in the Legal Amazon (PPCDAm) was passed.

The main goal of this plan was to control and put off deforestation actions in the country. One of its strategies was the adoption of DETER. The enlarged ability of the IBAMA was to aim its rule enforcement assets in the Amazon areas via DETER to attain amazing outcomes. Between 2007 and 2011, there was 75% less deforestation compared to the time when there where there is no fines imposed lawbreakers.<sup>64</sup>

New policies being put into place really played a great role in preventing deforestation in Brazil. The various strategies used in controlling deforestation included: frequent land checking, strict control of prohibited logging, and construction of conservation spots. In order for any individual to cut trees in the Amazon, he or she should have to have a license. Licensing is one of the best ways to control deforestation because it allows for the cutting of trees only in specified areas.<sup>65</sup>

Brazil has seen agricultural development reduce the rate of poverty and hunger in their country. Indigenous peoples in Brazil are greatly benefiting because they have power (20%)

---

<sup>62</sup> “DETERing Deforestation in the Brazilian Amazon.”

<sup>63</sup> “Deterring Deforestation in the Amazon.”

<sup>64</sup> “Deterring Deforestation in the Amazon.”

<sup>65</sup> “The Amazon in Graphics: Amazon Rainforest,” *BBC*, 2008, <http://news.bbc.co.uk/2/hi/americas/7360258.stm>. (Accessed March 21, 2014.)

over some reasonable parts of the Amazon. The government has offered enough support to these people through various ways, such as issuing them with official titles. The government has also protected them from unlawful intrusion by farmers, ranchers, and miners who are not indigenous. The logging rules and regulations have been strongly enforced. Examples of such laws include: closing of illegal sawmills, seizure of illegal timber, and punishing of individuals who act against the law. Even the top corrupt officials who engaged themselves in illegal logging were jailed. This confirms that the government is committed in its decision to stop deforestation.<sup>66</sup>

There is a current climate-change mitigation mechanism used to handle issues of environmental crisis in Brazil. The mechanism in question is the “Reducing emissions from deforestation and forest degradation in developing countries” (REDD). Forests act as homes for indigenous people, who “often find themselves in a marginalized position.” Laws and rules have been put into place to ensure that the indigenous people’s rights are provided for. The global and state laws emphasize having good relationships between these people and the natural environment. The relationship can be taken in a stewardship worldview where the indigenous people should be given their moral rights. This framework is only applicable to global environmental rulings. The reason for this shift is the new moral approach toward environmental law guidelines. This approach can be noticed in some trends in global and state laws.<sup>67</sup>

Most analysts see it as a useful way to solve various challenges facing the environment. Stewardship has played a crucial role in reconciling conflicts between environmental policies and the rights of the indigenous people. Stewardship is considered to be the best tool for bringing

---

<sup>66</sup> “Tropical Forests and Climate: Brazil’s success in reducing deforestation,” *Union of concerned scientists*, 2011, 1&2. [http://www.ucsusa.org/assets/documents/global\\_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf](http://www.ucsusa.org/assets/documents/global_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf). (Accessed March 10, 2014.)

<sup>67</sup> “The Crossing Point,” 4.

into line the international human rights laws and international environmental laws in relation to the rights of the indigenous people.<sup>68</sup>

REDD tries to unite the environmental policies with indigenous people's rights. The two may harmonize or may fail to unite in the long run. In addition, REDD provides for an opportunity for the environmental policies and the indigenous people's rights to be protected as a result of allowing a stewardship ethical worldview to take place.<sup>69</sup>

Even though Brazil has had very strong laws for forest protection since 2006, recently the legislation is losing strength. "Instead of strengthening forest protection in light of their critical role in climate change protection, the Brazilian forests came under even graver danger with a 2012 revision of the 1965 Forest Code, which greatly reduced protections in place for over 70 years." Despite presidential vetoes of the most egregious provisions in the 2012 revisions, the nearly wholesale dismantling of the forest and ecosystem protections still stand as current Brazilian law."<sup>70</sup> It now looks like they are in the process of strengthening the laws again.<sup>71</sup>

In summation, the main reasons to control deforestation in Brazil are to combat illegal cutting of trees as a natural resource, to protect the region as a forest area, and to protect the rights of indigenous people who live there. Additionally, Brazil is trying to control forest destruction in response to climate change.

### **3.2.2. Nepal and New Zealand**

Nepal is focusing on controlling deforestation for a different reason: Nepal's issues seem to revolve around the question of who should be responsible for the land. Nepal has some part of

---

<sup>68</sup> "The Crossing Point," 4.

<sup>69</sup> "The Crossing Point," 4.

<sup>70</sup> Simone Bauch and Erin Sills, "Forest Policy Reform in Brazil," 2009, 137. [http://www.academia.edu/213876/Forest\\_Policy\\_Reform\\_in\\_Brazil](http://www.academia.edu/213876/Forest_Policy_Reform_in_Brazil). (Accessed May 18, 2014.)

<sup>71</sup> "Lessons About Land Tenure, Forest Governance and REDD: Case studies from Africa, Asia and Latin America," *USAID*, 2012, 37. <http://www.nelson.wisc.edu/lrc/docs/Lessons-about-Land-Tenure-Forest-Governance-and-REDD.pdf>. (Accessed March 23, 2014.)

its forests being managed by local communities via Community Forest User Groups (CFUGs). It has been shown that the management of the forests by local communities yields better results because the rate of illegal tree cutting is lower than in the forests managed by the government. The question of who owns the land in the government’s hands is still unanswered in Nepal. The communities are provided with some of basic needs and resources. In such a country, local governance needs to be reinforced so as to perk up the likelihood of fair forest stewardship. The table below explains how Nepal can improve their forest conservation process.<sup>72</sup> Clarifying land tenure and strengthening local governance will the improve chances of equitable forest stewardship (See table 1).<sup>73</sup>

**Table 1. Management, Harvesting, Sale, and Land Tenure Rights Under Forest Governance Regimes in Nepal**

<b>Management regime</b>	<b>Approximate area</b>	<b>Forest management</b>	<b>Harvesting of forest products</b>	<b>Sale of forest products</b>	<b>Land tenure</b>
<b>Community forestry</b>	1,219,272 hectares (25% of the forest area)	CFUGs	CFUGs	CFUGs w/ government permission	Government

In relation to rights, stewardship can be viewed as the principled imperative of such rights. Examples of the rights of the indigenous people include giving support to them in relation to environmental matters and the climate-change perspectives. Indigenous people’s stewardship role can be seen in their daily behaviors, welfare, customary environmental understanding, and cultural distinctiveness as an element of their identity. Arguing for indigenous people’s rights and, at the same time, giving a substitute way for the security of some human rights can be seen as an overarching notion. This can be explained using an example of a land tenure system and

<sup>72</sup> “Lessons About Land Tenure,” 7.

<sup>73</sup> “The Crossing Point,” 7.

the inappropriateness among land rights and possession of local people and the standard communal law approach to various possessions.<sup>74</sup>

Maoris, the indigenous Polynesian people of New Zealand, trust that the people belong to the land and not the vice-versa. According to them, possession of land should not be through the legal system. There are proposals for the introduction of a stewardship claim as compensation for damages that were caused to indigenous societies due to effects of climate change.<sup>75</sup> Often times, indigenous peoples have a stewardship approach toward the environment, and their attitude to land is as “guardians.”<sup>76</sup> This view of people belonging to the land shows the real value of the environment for the environment’s sake.

### **3.2.3. USA and other English-speaking countries**

The view above—people belonging to the land shows the real value of the environment for the environment’s sake—also can be seen in the USA and other speaking-English countries where they protect the forest because it is a part of the environment. The Forest Stewardship Council (FSC) is a non-profit, non-governmental program that establishes standards to promote the responsible management of forests globally. Many people believe that the only way to preserve forests is by banning the use of its products, but the daily consumption of forest products cannot be ignored.<sup>77</sup> For example, on average, Americans use close to six trees worth of paper each year. The FSC, therefore, being the standard measure in certification of forests, is trying to control the market to consider policies that represent a preference for FSC-certified products. Consumers and governments look for these certified products, as well, and the US

---

<sup>74</sup> “The Crossing Point,” 7.

<sup>75</sup> “The Crossing Point,” 34.

<sup>76</sup> “What We Do: Protect Forests for Future Generation,” *FSC.*, <https://us.fsc.org/what-we-do.186.htm>. (Accessed March 30, 2014.)

<sup>77</sup> “Advantages of FSC,” *Forest Stewardship Council.* <https://us.fsc.org/advantages-of-fsc.189.htm>. (Accessed March 30, 2014.)

Green Building Council’s Leadership in Energy and Environmental Design (LEED) program provides incentives to encourage the use of FSC-certified materials.<sup>78</sup>

Forests are protected according to strict ecological and social norms under FSC certification, and forest fiber is tracked the distance to the shopper through the certification system with products having the FSC “check-tree” logo.<sup>79</sup> (See Figure 2.)



Figure 2. FSC Logo<sup>80</sup>

Additionally, since the FSC is the gold standard in forest certification, it is the only program that is supported by groups such as the World Wildlife Federation (WWF), the Sierra Club, Greenpeace, the Natural Resources Defense Council, and the National Wildlife Federation. Wide areas nowadays, especially in the US and Canada, have become certified under the FSC’s system.

During the same period of time the FSC was being established, many non-governmental organizations were also being established. For instance, by the end of the 20<sup>th</sup> century, different organizations of conservation recognized the stewardship concept as a way to preserve the environment. To illustrate:

- At the beginning of the 1990s, non-profit “stewardship” organizations aimed to protect different areas and species across North America and most English-speaking areas. The organizations protect rivers, gardens, coastlines, and species located

---

<sup>78</sup> “FSC Certification,” *NORDIC*. <http://www.nordicewp.com/environment/fsc-certification/>. (Accessed March 20, 2014.)

<sup>79</sup> “FSC BELGUIM,” *KAURI*. <http://www.kauri.be/459/Members/171/fsc-belgium->. (Accessed March 30, 2014.)

<sup>80</sup> Jennifer Welchman, “A Defense of Environmental Stewardship,” 7. [https://www.academia.edu/335593/A\\_Defense\\_of\\_Environmental\\_Stewardship](https://www.academia.edu/335593/A_Defense_of_Environmental_Stewardship). (Accessed April 1, 2014.)

locally, nationally, and regionally in these areas.

- In addition, other stewardship programs were implemented around the English-speaking world:
  - United States Forest Stewardship Program (1990)
  - United Kingdom’s Countryside Stewardship Scheme (1991)
  - Canadian Province of Ontario’s Stewardship Program (1995)
  - Canadian Habitat Stewardship Programme (2000)
  - Australia’s Environmental Stewardship Programme (2007)<sup>81</sup>

Consequently, there has been an increase in the use of the terms “environmental stewardship” and “forest stewardship.” The term “stewardship” is increasingly replacing the term “management” when it comes to environmental conservation (Table 2).<sup>82</sup>

**Table 2. Examples of the Wide Use of the Term Stewardship in Land Use and Conservation Literature<sup>83</sup>**

<b>Term</b>	<b>Use</b>
<b>Stewardship</b>	In various aspects of land management and conservation
<b>Land Stewardship</b>	Especially in the USA and Canada in relation to both agricultural land and forests

### **3.2.4. Countries with significant Muslim influence**

#### **3.2.4.1. The Philippines**

Ten percent of the inhabitants of Mindanao, which is the second-biggest southern-most main island in the Philippines are Muslims.<sup>84</sup> The Act for the Autonomous Region in Muslim

---

<sup>81</sup> Richard Worrel and Michael Appleby, *Stewardship of Natural Resources: Definition, Ethical and Practical Aspects* (Netherlands: 2000), 264.  
<http://search.proquest.com.ezproxy.rit.edu/docview/196564943?accountid=108>. (Accessed April 11, 2014.)

<sup>82</sup> Worrel and Appleby, 264.

<sup>83</sup> Suad Joseph, “EW&IC: Muslims in the Philippines,” 2014, <http://sjoseph.ucdavis.edu/ewic-public-outreach-resources/ewic-outreach-resources/muslims-in-the-philippines>. (Accessed March 10, 2014.)

Mindanao (ARMM) was the first law dealing with management of forests in the Philippines. This law has been in place since October 2007.<sup>85</sup> ARMM is composed of all the Philippines' dominant Muslim provinces, that is to say, Basilan, Lanao del Sur, Shariff Kabunsuan, Maguindanao, Sulu and Tawi-Tawi, and the Islamic City of Marawi.<sup>86</sup> ARMM has played a crucial role in reducing deforestation in the Philippines. ARMM is highly treasured as the correlative element of the Philippines terrain. This Act was formulated and implemented through the assistance of various groups, such as the Muslim ethics and law leaders, social scientists, government units, and leaders of the society.<sup>87</sup>

For instance, Republic Act No.9054, or RA No.9054, is an act to augment and support the Organic Act for ARMM, adjusting for the purpose Republic Act No.6734, named "An Act Providing for the Autonomous Region in Muslim Mindanao" as adjusted.<sup>88</sup> This law, when released and enforced, forbid the cutting down of trees in many areas of the country.<sup>89</sup>

The proclamations issued by the National Government declaring old growth or natural forests and all water sheds within the autonomous region as forest reserves are reiterated in RA 9054. The forest reserves shall not be subjected to logging operations of any kind or nature. (Art. X, Sec. 5).<sup>90</sup>

Many activities toward forests were either stopped or changed when RA 9054 was approved. To illustrate, the National Government or the Regional Government that had granted

---

<sup>84</sup> Abdulwakil Tanjilil, *Alkhalifa (The Steward): What Every Muslim Needs to Know about His Role in Environmental Governance* (Philippines: 2007), 42. [http://pdf.usaid.gov/pdf\\_docs/PNADL915.pdf](http://pdf.usaid.gov/pdf_docs/PNADL915.pdf). (Accessed March 17, 2013.)

<sup>85</sup> "Autonomous Region in Muslim," *Philippines Islands*, [http://www.philippine-islands.ph/en/armm\\_autonomous\\_region\\_in\\_muslim-philippines.html](http://www.philippine-islands.ph/en/armm_autonomous_region_in_muslim-philippines.html). (Accessed March 17, 2013.)

<sup>86</sup> Tanjilil, 42.

<sup>87</sup> "Organic Act for Autonomous Region in Muslim Mindanao," *USAID*, 2003, 1. Accessed March 22, 2014, [http://pdf.usaid.gov/pdf\\_docs/PNACU004.pdf](http://pdf.usaid.gov/pdf_docs/PNACU004.pdf).

<sup>88</sup> "Organic Act." 18.

<sup>89</sup> "Organic Act." 18.

<sup>90</sup> "Organic Act." 18.

forest concessions, timber licenses, contracts, or agreements of any kind or nature, over forest reserves in the autonomous region were “cancelled, nullified and voided and shall not be renewed until 30 years after the date of approval of RA 9054. (Art. X, Sec. 5)”<sup>91</sup>

RA 9054 encourages reforestation. This occurs by requiring the setting aside of funds to be devoted to reforestation projects and other environmental activities. According to the law, ten percent of the shares of the internal revenue taxes of the Regional Government, the provinces, cities, municipalities and barangays of the autonomous region as well as all allocations for the development of the region by the National Government shall be devoted to reforestation projects and other environmental activities to enhance the protection and development of the region’s environment. (Art. X, Sec. 5)”<sup>92</sup>

The major policies highlighted in this Act include trust and stewardship as keys for forest preservation. This Act is based on particular Islamic principles and approaches of community-based management. This Act gives priority to the community when it comes to administration and the use of forest property. Importantly, the Act’s principal strategies are community forest management and community-based forest management.<sup>93</sup>

#### **3.2.4.2. Indonesia**

Perhaps a similar act could be implemented in Indonesia, where the high rate of tropical forest loss is regrettable, especially in Sumatra.<sup>94</sup> It has been shown that Indonesia has the highest number of Muslim believers in the world, approximately 88% of the population. Islamic religion, in the context of Sumatra, has the ability to incorporate customary ways of environmental management practices, which are being managed by the local government

---

<sup>91</sup> “Organic Act,” 19.

<sup>92</sup> Tanjilil, 43 & 44.

<sup>93</sup> *DICE, Integrating Religion within Conservation: Islamic Beliefs and Sumatran Forest Management* (UK: 2013), 32. <http://www.kent.ac.uk/dice/files/Mckay2013.pdf>. (Accessed April 6, 2014.)

<sup>94</sup> DICE, 10.

organizations called Nagari. The Nagari contain many natural resources, such as forests, farm land, and lakes. Furthermore, the Islamic religion explains in detail the relationship that exists between God, nature, and human beings. Stewardship has been stressed by the doctrine of Khalifa whereby Muslims are encouraged to conserve natural resources.<sup>95</sup> This religion acknowledges that everything was created by God.<sup>96</sup>

Unfortunately, the people of Sumatra appear unfamiliar with many management principles within Islam and they are not followed all through Sumatra at the local or state level. Therefore, the main focus of the Nagari project was to educate home teachers, religious leaders, and society members to effectively spread and apply Islamic knowledge and laws regarding environmental conservation. Lastly, the project was prepared in a way as to perform the proper monitoring and proceedings needed to assess how well the project's objectives were being achieved at the local level.<sup>97</sup>

### **3.3. Environmental Stewardship Philosophies**

The term stewardship is originated from sty-ward, the one that keeps an eye on animal fields, as well it has a relation to the word "warden" (in nature conservation). Other terms, such as custodian, trustee, and guardian, have the same definition as steward, are they are also used at times in relation to land used.<sup>98</sup>

A survey conducted recently about the preservation of, and literature about, land use applies a new explanation of stewardship. The new explanation is adjusted by relying on natural resources management. It defines stewardship as:

---

<sup>95</sup> DICE, 38.

<sup>96</sup> DICE, 10.

<sup>97</sup> Worrel and Appleby, 269.

<sup>98</sup> Worrel and Appleby, 269.

The responsible use (including conservation) of natural resources in a way that takes [a] full and balanced account of the interests of society, future generations, and other species, as well as private needs, and accepts significant answerability to society. A religious interpretation would require the phrase “and ultimately to God” to be added.<sup>99</sup>

The stewardship word has a culture in philosophy, especially in ethics, where it is mainly applied to represent answerable consumption of resources. Additionally, it’s been designed as a meaning of articulating “environmental ethics” or “land ethics.”<sup>100</sup> The main idea of stewardship is the caring of particular things “in trust” for another being: for God, a god, nature, society, or future generations.<sup>101</sup>

This principle of stewardship can be found in an eco-centric philosophy. Such philosophy focuses mainly on the role of human beings as the responsible party for the environment as stewards.<sup>102</sup> According to the eco-centric view, nature dictates the way people should behave as guardians of the ecosystem. See Figure 3.

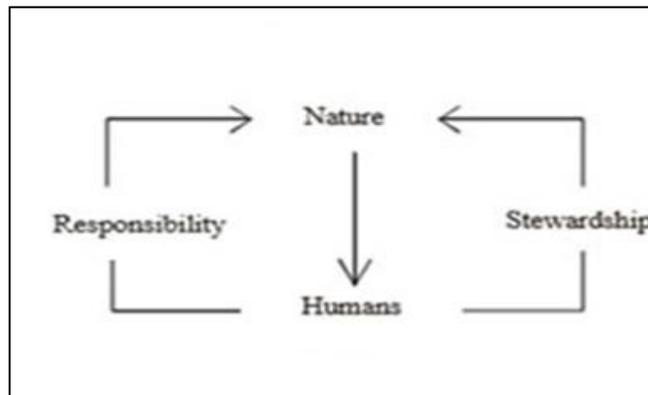


Figure 3. The Eco-Centric Model.

---

<sup>99</sup> Worrel and Appleby, 265.

<sup>100</sup> Worrel and Appleby, 266.

<sup>101</sup> “The Crossing Point,” 7.

<sup>102</sup> Andrew Hoffman and Lloyd Sandelands, “Getting Right with Nature: Anthropocentrism, Ecocentrism and Theocentrism,” 2004, 16, <http://deepblue.lib.umich.edu/bitstream/handle/2027.42/39158/903.pdf?sequence=1>. (Accessed March 26, 2014.)

There exists another option for environmentalism. This option is the ability to reach further than the religion and political debates on eco-centrism and anthropocentrism. It is theocentric, and it is not anthropocentric or eco-centric environmentalism.<sup>103</sup> Environmental ethics and stewardship mostly comes from theo-centrism, because in this view, humans are the guardians of the earth as entrusted by God,<sup>104</sup> which raises the question about the morality of deforestation.<sup>105</sup> To illustrate, O’Riordans (see Figure 4) illustrates the relationship between God, human beings, and nature. It requires that human beings should act according to a required code of conduct and morals. In addition, it explains why people should behave in those given ways.<sup>106</sup>

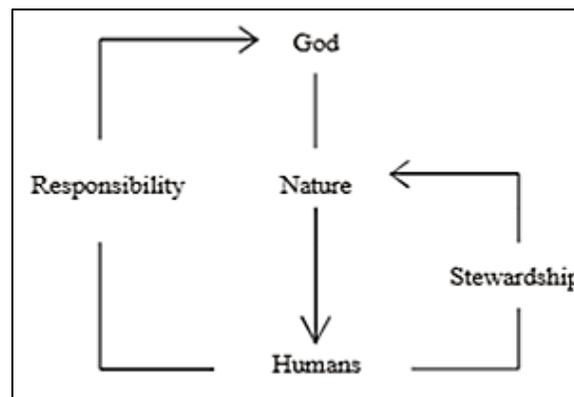


Figure 4. O’Riordan’s View to Show the Theo-Centric Model.

Even though the stewardship principal is approximately encouraged by religious concerns, this fact might enhance the way that the managers of earthly resources see the stewardship principal. The term stewardship is in worldwide used, indicating that either the religious concept is not known well or that it is not an obstruction.<sup>107</sup>

<sup>103</sup> “Theocentrism and Pluralism: Are They Poles Apart?” *Institute of Policy Studies, Islamabad*, 2008, <http://www.ips.org.pk/islamic-thoughts/1053-theocentrism-and-pluralism-are-they-poles-apart>. (Accessed May 3, 2014.)

<sup>104</sup> Hoffman and Sandelands, 31.

<sup>105</sup> Abedi-Sarvestani and Shahvali, 613&614.

<sup>106</sup> Worrel and Appleby, 272.

<sup>107</sup> “The Crossing Point ,”5.

Stewardship is a connection of beliefs and worth relating to nature that derives a sustainable relation with the ecosystem. This term is possibly used worldwide as a way of respecting the values and responsibilities toward the environment. Interestingly, this sustainable relation to the environment is perfectly cited in different areas and may be preferred as the current common situation.<sup>108</sup>

### **3.4. Environmental Ethical Philosophies (moving beyond anthropocentrism toward eco-centrism and theo-centrism)**

There is a widespread opinion concerning anthropocentrism in today's world. Most people think that anthropocentrism is playing a key part in causing environmental destruction such as deforestation. The anthropocentric view gives various reasons as to why people cut down trees: to get money, to build homes, and ignoring the innate value of trees. By doing this, the environment is destroyed and other global challenges will eventually emerge.<sup>109</sup>

The anthropocentric view has been considered as the main cause of ecological challenges. People are acting in ways that compromise ecological conservation.<sup>110</sup> Many philosophies related to environmental conservation rise to help conserve the environment rather than allowing the anthropocentric view to take control. Such philosophies focus more on the role of human beings to take care of the environment as stewards, which comes under the heading of "eco-centrism."<sup>111</sup>

Many of the ethical approaches use the word eco-centrism as the heading in many cases. A society's change of attitude in the direction of the eco-centric philosophies is not in any way

---

<sup>108</sup> Bushra Dalile, "Environmental Ethics: Between Anthropocentrism and Ecocentrism," [https://academia.edu/1476524/Environmental\\_Ethics\\_Between\\_Anthropocentrism\\_and\\_Ecocentrism](https://academia.edu/1476524/Environmental_Ethics_Between_Anthropocentrism_and_Ecocentrism). (Accessed March 19, 2014.)

<sup>109</sup> "The Crossing Point," 8.

<sup>110</sup> "The Crossing Point," 7.

<sup>111</sup> Chris Eastaugh, "BC Journal of Ecosystem and Management: Green Philosophies in the Face of Climate Change," 2011, 39, <http://jem.forrex.org/index.php/jem/article/view/21/46>. (Accessed April 1, 2014.)

opposed by researchers or a call to think according to the eco-centric view, which is based on feelings.<sup>112</sup> Forest administrators should take the responsibility of educating people on their role as environmental stewards.<sup>113</sup> By doing so, people's perception will change positively, and they will start appreciating the need to take part in environmental conservation. They will also change their attitude toward the perception of forest managers, in general, as they learn to appreciate them.<sup>114</sup> Forest managers have a great responsibility of educating people on issues of stewardship so as to create awareness about what people are expected to do. In this way, the environment will be conserved.<sup>115</sup>

Stewardship is often connected to theo-centrism,<sup>116i</sup> which is a godly approach to the world. It also develops from the type of religious faith where only God is the earth's creator and sustainer, including Christianity, Islam, and Judaism.<sup>117</sup> This is an environmentalism that is theocentric not an anthropocentric or eco-centric.<sup>118</sup> Through its recognition for the completeness of the creations of God, theo-centrism leads to fresh inquiries about the morals related to persistent issues like the destruction of forestland.<sup>119</sup> (See Table 3.)

Stewardship focuses on the care and concern of all the inhabitants of an environment without favoring human beings. Human beings are considered stewards and, hence, they should take good care of the environment. Stewardship, therefore, gives human beings special roles to perform, compared to other inhabitants in the environment. Human beings have the ability to take care of nature and also the ability to destruct it, because they are over the control of other things in nature. This does not in any way make them superior than other inhabitants of nature.

---

<sup>112</sup> Eastaugh, 1.

<sup>113</sup> Eastaugh, 41.

<sup>114</sup> Eastaugh, 36.

<sup>115</sup> Hoffman and Sandelands, 16.

<sup>116</sup> Abedi-Sarvestani and Shahvali, 613.

<sup>117</sup> Hoffman and Sandelands, 16.

<sup>118</sup> Hoffman and Sandelands, 31.

<sup>119</sup> "The Crossing Point, " 8&9.

Stewardship should not make people think that they can exercise authority over everything in nature. They should interact positively with the nature so as to ensure a good relationship among the inhabitants of the environment.<sup>120</sup>

It has been mentioned previously that the term stewardship has been widely used recently. This popular use assumes that, even though the stewardship terminology is an ethic derived from religious context, it approves that religion might not be a barrier or an issue of application of this ethic.<sup>121</sup> This study aims to not argue philosophy; rather, it aims to find a universal societal attitude toward stewardship in both Muslim and non-Muslim regions, in order to manage and combat the issue of deforestation.

A new call has been approached worldwide by The United Nations Millennium Declaration, which introduces a new ethic of preservation and stewardship. It states, “We resolve therefore to adopt in all our environmental actions a new ethic of conservation and stewardship.” This call is duplicated in the Secretary General’s Millennium Report.<sup>122</sup>

---

<sup>120</sup> Worrel and Appleby, 272.

<sup>121</sup> Welchman, 2.

<sup>122</sup> “Forest Ethics,” *Society of American Foresters*, [http://encyclopediaofforestry.org/index.php/Forest\\_Ethics](http://encyclopediaofforestry.org/index.php/Forest_Ethics). (Accessed March 23, 2014.)

**Table 3. Comparing Centers of Value in Relation to Their Utility in Environmental Conservation and Example of Ethic Implication**

<b>The value center</b>	<b>Harmony in relation between humans and nature</b>	<b>Responsibility toward nature</b>	<b>Conduct Guarantee</b>	<b>Comprehensiveness</b>	<b>Example of ethic implication</b>
<b>Anthropocentric</b>	Humans and nature are two different existences.	Comes from the liability toward humans.	In as much as human interests are not to be at risk.	Close to humans.	Deforestation and environmental crisis
<b>Eco-centric</b>	Humans are related to the ecosystem.	Humans are solely in charge fully toward the ecosystem.	In as much as the ecosystem's balance is not to be at risk.	Close to the ecosystem's units.	Brazil, Nepal, New Zealand, USA, and English-speaking countries
<b>Theocentric</b>	Humans are related to all God's creations.	Humans are in charge toward God and His creation.	In as much as God's creations are not to be at risk.	Endless.	Philippines (ARMM) and Indonesia (Nagari)

### 3.5. The Islamic Ethic of Stewardship

#### 3.5.1. Muslim Stewardship

Ethical authority may be derived from various religions.<sup>123</sup> Religions have been considered to be effective in solving problems related to environmental destruction. There is a need to further examine the extent to which various religions have tackled the problem of environmental destruction. Religions are trying to solve this issue through the formulation of ethics and a code of conduct related to environment.<sup>124</sup>

Ethics with regard to the environment and stewardship is often associated with theocentrism. It is believed that humans must be the world's guardians as God prefers it to be done.

<sup>123</sup> Abedo-Sarvestani and Shahvali, 613.

<sup>124</sup> "Theocentrism and Pluralism."

Humankind must, therefore, be considerate to all objects with life, including humans. It maintains that humans exist here for a short time, and they are supposed to be taking care of the world for the generations in the future. Regarding Islam, this principle's equivalent knowledge is represented by the vicegerency concept. According to the Islamic view of the world, the human is regarded as Allah's vicegerent (*khalifa/caliph*).<sup>125</sup> The Holy Qur'an illustrates this in the following terms, "Just think when your Lord said to the angels: "Lo! I am about to place a vicegerent on earth." (Al-Baqarah 2:30)<sup>126</sup>

According to the teachings of Islam ethics based on the khalifah (stewardship) ethic, people have a role to play in preserving the natural environment's resources. It is, therefore, the responsibility of the people to ensure natural resource sustainability by only using the resources when necessary.<sup>127</sup> Consequently, the order, harmony, and balance in nature should be maintained.<sup>128</sup> The Islamic religion acknowledges order and calls for conservation and discourages damage to the environment. Furthermore, the Islamic religion explains in details the relationship that exists between God, nature, and human beings. Consequently, stewardship has been stressed by the teaching of Khalifa, so Muslims are encouraged to safeguard natural resources.<sup>129</sup>

According to the global view of the Islamic religion, it is argued that the religion cannot allow human beings to destroy the environment or ruin the ecological stability and the order of systems of environment. People are, therefore, entrusted by God to act as His supporters in taking care of nature. Human beings should not break this trust because they will be considered

---

<sup>125</sup> Qura'n, <http://quran.com/2>. (Accessed May 4, 2014.)

<sup>126</sup> DICE, 10.

<sup>127</sup> DICE, 18.

<sup>128</sup> DICE, 38.

<sup>129</sup> Ibrahim Ozdemir, "An Islamic Approach to the Environment," 2002, [http://www.islamawareness.net/Nature/environment\\_approach.html](http://www.islamawareness.net/Nature/environment_approach.html). (Accessed March 26, 2014.)

undependable deputies.<sup>130</sup> In accordance to Amanah (trustworthiness and custodianship), there are some specific principles of the earth and for the creation of the universe. We strongly need to recognize our responsibility and our Creator, and we should try to make the appropriate decisions so that we can make this land a perfect place to live in.<sup>131</sup> The order, harmony, and balance in nature should be maintained since God created it that way.<sup>132</sup> And whenever it is not maintained, environmental destruction, like deforestation, can be recognized.

### **3.5.2. Resources management decisions and Islamic ethics**

Often times, the decisions of resources management are affected mostly by environment services being abused for business sectors; subsequently, the non-business profits are regularly lost or debased. These non-business profits are frequently high and, in some cases, more significant than the business ones.<sup>133</sup> As trustees and custodians, there is a need to recognize our responsibility toward the environment to make appropriate decisions so that the land will be well preserved.<sup>134</sup>

God says in the Quran, "...And (remember) when your Lord said to the angels: Verily, I am going to place (mankind) generations after generations on Earth." (Al-Baqarah:30)

The aggregate economic worth connected with sustainably managing the environment is frequently higher than the value connected with the changes of the environment through

---

<sup>130</sup> Zabariah Haji Matali, "Sustainability in Islam" [http://www.earthcharterinaction.org/invent/images/uploads/10%20Manuscript\\_Zabariah.pdf](http://www.earthcharterinaction.org/invent/images/uploads/10%20Manuscript_Zabariah.pdf) #37. (Accessed May 9, 2013.)

<sup>131</sup> Ozdemir.

<sup>132</sup> Walter V Reid, Harold A. Mooney, Angela Cropper, Doris Capistrano, Stephen R. Carpenter et al. *United Nations Environment Programme* (Washington, DC: Island Press, World Resources Institute, 2005). s.v. "Ecosystems and Human Well-Being: Synthesis, Millennium Ecosystem Assessment," <http://www.unep.org/maweb/documents/document.356.aspx.pdf> #6. (Accessed May 3, 2013.)

<sup>133</sup> Matali.

<sup>134</sup> Reid et al, 6.

cultivating, clear-cut logging, or other serious utilization.<sup>135</sup> A person who believes there needs to be average in all factors of his lifestyle, such as the way he uses the characteristics. Indeed, the whole globe is depending on purchase and stability.<sup>136</sup> Exceeding boundaries in using characteristics or organic sources is considered deluxe, which is regarded as a significantly bad act in the Muslim religion.<sup>137</sup> So the massive loss of forests is due to the extraction of trees without sufficient efforts of reforestation to replace the one that has been cut.<sup>138</sup> Middleness in Islam has come with the meanings of perfection, fine quality, and goodness of the things.<sup>139</sup>

The Quran says, “...But waste not by excess, for God loves not the wasters...” (Al-A’raf: 31).

One should not forget that over use of anything is bad, so if we over use environmental resources, we soon will be losing them. Nature has made a proper balance in everything around us, so we strongly need to save and care for these natural gifts, such as water, air, earth, and natural resources.<sup>140</sup>

The economic and public health costs related to the environment destructions can be serious.<sup>141</sup> Evidence is mounting, although inconclusive, that our ecosystem is undergoing a great change and the possibility of this change is high, and the change would impact man’s well-being adversely. These changes are all now rapid and instant. They are accelerating so fast that they may soon become irreversible.<sup>142</sup> Amongst the risks for individual community and the surroundings is luxury. The roots of such an act are avarice and carelessness. This personality is managed by spiritual lessons. In the sources of Muslim religion, two bad acts are recognized.

---

<sup>135</sup> Mohammad Shomali, “Aspects of Environmental Ethics: An Islamic Perspective,” [http://www.thinkingfaith.org/articles/20081111\\_1.pdf](http://www.thinkingfaith.org/articles/20081111_1.pdf) #5. (Accessed May 13, 2013.)

<sup>136</sup> Shomali, 5.

<sup>137</sup> “Information on Deforestation and How It Will Affect Us?” *Deforestation Facts*, 2011, [http://deforestation-facts.blogspot.com/2011\\_02\\_01\\_archive.html](http://deforestation-facts.blogspot.com/2011_02_01_archive.html). (Accessed May 28, 2014.)

<sup>138</sup> Matali, 36.

<sup>139</sup> Matali, 36.

<sup>140</sup> Reid et al, 6.

<sup>141</sup> Reid et al, 1.

<sup>142</sup> Shomali, 5.

One is inefficient intake. Another bad act is said to be wasting. These two ideas are introduced into perform to modify individual behavior.<sup>143</sup>

Deforestation and decreasing forest coverage causes the loss of the earth's natural habitat, species extinction, flooding, GHGs emissions, and loss of forest products.<sup>144</sup> The carbon dioxide atmospheric concentration has increased by about 32% since 1750.<sup>145</sup> Misuse of godly blessings or causing harm to them are signs of ungratefulness, which is severely forbidden in Islam, like deforestation that is absolutely condemned in Islam.<sup>146</sup> The Muslim religion is contrary to trouble and crime of all types. Any act of trouble is criticized, whether it is in regard to humans or residing people or even non-living people.<sup>147</sup>

“Corruption doth appear on land and sea because of (the evil) which men’s hands have done, that He may make them taste a part of that which they have done, in order that they may return.” (30:41)

“Do no mischief on the earth, after it hath been set in order.” (7:56)

Corruption is a significant driver to forest degradation. Different factors, together with corruption, have led to deforestation, such as lack of alternative livelihoods, and economy and poverty for economic interests’ reasons. Bribery of officials is an example of corruption that is widely spread and is a main obstacle in the realization of forest preservation through various measures.<sup>148</sup>

---

<sup>143</sup> Reid et al, 6.

<sup>144</sup> Reid et al, 4.

<sup>145</sup> Shomali, 5.

<sup>146</sup> Shomali, 5.

<sup>147</sup> Elisara-La’ulu, 16

<sup>148</sup> Reid et al, 40.

Alterations in the environment can enhance the risk of disease prevalence, like cholera, as well as the risk of its vectors like mosquitoes.<sup>149</sup> According to a well-established concept in Islam, nobody can cause damage or reduction to others. And there is no place in the Muslim religion for inflicting any harm on one's self or on others.<sup>150</sup> The loss of particular ecosystem attributes (sacred species or sacred forests) can weaken the spiritual benefits people obtain from the ecosystems. Today's environmental crisis may have begun with the loss of "modern man's" understanding of nature to be a sacred trust from God.<sup>151</sup>

So, we will be reusing the natural resources and will try to not waste the gifts of nature. Not only this, but we can also play a positive role in preserving the forests. We should be familiar with the fact that deforestation can lead us to serious problems, so we should try to pay extra attention to our acts.<sup>152</sup>

### **3.5.3. Significance of trees in Islam**

Islam covers much of what life entails. Biodiversity is highly regarded as of great importance according to their teachings. The Creator chose man as His vicegerent to take care of both plants and animals on earth. Man has been guided to dominate nature at all times including war time.<sup>153</sup> In addition, the Qur'an has a set of plentiful illustrations that direct its followers to take care and maintain nature, encouraging them to make a substantial, positive stance by successfully instilling their daily routine with practices that include biodiversity.<sup>154</sup> Moreover,

---

<sup>149</sup> Shomali, 5.

<sup>150</sup> Shomali, 5.

<sup>151</sup> Shabir Ally, "Environment and Islam. Climate Change: A Call for Personal Changes," 2009, <http://www.whyislam.org/social-values-in-islam/social-ties/environment-and-islam/>. (Accessed May 11, 2013.)

<sup>152</sup> Mumtaz Hussain, "Significance of Forest in Islam," 2011, 81, [http://pecongress.org.pk/images/upload/books/\(7\)%20Significance%20of%20Forest%20In%20Islam%20by%20Eng%20r.%20Mumtaz%20Hussain.pdf](http://pecongress.org.pk/images/upload/books/(7)%20Significance%20of%20Forest%20In%20Islam%20by%20Eng%20r.%20Mumtaz%20Hussain.pdf). (Accessed March 18, 2014.)

<sup>153</sup> DICE, 10.

<sup>154</sup> Hussain, 72.

the trees have been cited on different verses in the Holy Quran and also in the golden sayings of the Holy Prophet (PBUH).<sup>155</sup>

Islamic-based environmental ethics, therefore, emboldens such behavior toward the environment in which the following accomplishments are encouraged:

1) Rebuffing any unreliable control over the universe because a human is both God's steward (caliph) on earth and takes care of all the creations on earth (Qur'an, 2: 30).<sup>156</sup>

2) Refrains man from the poor usage of nature since he is being directed to evade damages from the living creatures (Qur'an, 2: 205). People should be accountable to nature because a human is God's superlative and is responsible for the freedom of the creation. The assurance of the human to thrashing the universe reveals the human obligation toward the characteristic environment. Further, man is not only responsible for conserving God's creation but also improving the condition of the natural environment. It is, therefore, the general responsibility of the human beings to care for the earth.<sup>157</sup>

In addition, the ideas of tawhid (unity) and khalifah (stewardship) have been put into practical commandments in the Islamic law, famously known as the Shari'ah law. Islamic law institutions, such as forbidden zones, leave intact the sections in which development is restricted to protect the natural resources. Reserves were purely articulated to take care of the wildlife and the forests, customs which are essential to the environmental legislation of Islam.<sup>158</sup> According to the Islamic religion, people have a role to play in preserving the natural environment, according to God's will.<sup>159</sup>

---

<sup>155</sup> Abedi-Sarvestani and Shahvali, 615.

<sup>156</sup> Abedi-Sarvestani and Shahvali, 615.

<sup>157</sup> Abedi-Sarvestani and Shahvali, 615.

<sup>158</sup> Sheila Musaji, "The American Muslim: Environment and Ecology in Islam," 2012  
[http://theamericanmuslim.org/tam.php/features/articles/environment\\_ecology/](http://theamericanmuslim.org/tam.php/features/articles/environment_ecology/). (Accessed March 30, 2014.)

<sup>159</sup> Abedi-Sarvestani and Shahvali, 613.

#### **4. Conclusion**

Most people believe that strict anthropocentrism is the significant cause of environmental destruction like deforestation. Many models are seen these days that attempt to deal with this problem, and in some cases, concern about saving the forests is seen as an ethical issue. Environmental stewardship can be defined as using natural resources ethically so as to equally improve the welfare of society, other living organisms, and future generations. Environmental stewardship is oftentimes founded upon an eco-centric model of ethics, but it can also be built upon a theo-centric model. Theocentric ethics include the idea of accountability to God.

Environmental stewardship is related to theo-centrism as an approach of God to the world. It is driven by religious faith, where God is Earth's creator and sustainer. According to the teachings of Islam, people have an important role to play in preserving the natural environmental resources, the role of God's vice-regent, trustee, or steward on Earth. The Islamic ideas of tawhid (unity) and khalifah (stewardship) exist as commandments in the Islamic Shari'ah law, and if followed, provide a practical guide to protect natural resources, wildlife, and forests. As with Christianity and Judaism, in Islam, the principle of taking care of the environment is an important mission. Religions can modify the views and beliefs of people in the world, which in turn motivates the basic approaches and values of diverse cultures and societies in protecting and preserving the environment.

Environmental stewardship can be found in both theo-centric and eco-centric philosophies, which means that this effect is not only related to Islam or religions in general, but it is a solution for solving environmental issues like deforestation. The fact that stewardship can be found in different philosophies and religions does not diminish its importance or

effectiveness. In fact, it can motivate Muslims and non-Muslims, alike, to preserve the nature entrusted to everybody. This is a universal concept toward the environment that almost everyone can agree upon.

## References

- “Advantages of FSC,” *Forest Stewardship Council*, <https://us.fsc.org/advantages-of-fsc.189.htm>. (Accessed March 30, 2014.)
- “Autonomous Region in Muslim,” *Philippines Islands*, [http://www.philippine-islands.ph/en/armm\\_autonomous\\_region\\_in\\_muslim-philippines.html](http://www.philippine-islands.ph/en/armm_autonomous_region_in_muslim-philippines.html). (Accessed March 17, 2013.)
- “DETERing Deforestation in the Brazilian Amazon: Environmental Monitoring and Law Enforcement, Climate Policy Initiative,” 2013, <http://climatepolicyinitiative.org/publication/detering-deforestation-in-the-brazilian-amazon-environmental-monitoring-and-law-enforcement/>. (Accessed March 16, 2014.)
- “Deterring Deforestation in the Amazon,” *Brazil Works*. 2013, <http://www.brazil-works.com/deterring-deforestation-in-the-amazon/>. (Accessed March 17, 2014.)
- “Forest Ethics,” *Society of American Foresters*, [http://encyclopediaofforestry.org/index.php/Forest\\_Ethics](http://encyclopediaofforestry.org/index.php/Forest_Ethics). (Accessed March 23, 2014.)
- “Forest Ethics.” *Society of American Foresters*, [http://encyclopediaofforestry.org/index.php/Forest\\_Ethics](http://encyclopediaofforestry.org/index.php/Forest_Ethics). (Accessed February 10, 2014.)
- “Forest Losses and Gains: Where do We Stand?” *WWF*. <http://www.unep.org/vitalforest/Report/VFG-02-Forest-losses-and-gains.pdf>. (Accessed February 10, 2014.)
- “FSC BELGIUM,” *KAURI*. <http://www.kauri.be/459/Members/171/fsc-belgium->. (Accessed March 30, 2014.)
- “FSC Certification,” *NORDIC*. <http://www.nordicewp.com/environment/fsc-certification/>. (Accessed March 20, 2014.)
- “Information on Deforestation and How It Will Affect Us?” *Deforestation Facts*, 2011, [http://deforestation-facts.blogspot.com/2011\\_02\\_01\\_archive.html](http://deforestation-facts.blogspot.com/2011_02_01_archive.html). (Accessed May 28, 2014.)
- “Integrating Religion within Conservation: Islamic Beliefs and Sumatran Forest Management,” *DICE*. (UK: 2013), 32. <http://www.kent.ac.uk/dice/files/Mckay2013.pdf>. (Accessed April 6, 2014.)
- <sup>1</sup>“Lessons About Land Tenure, Forest Governance and REDD: Case studies from Africa, Asia and Latin America,” *USAID*. 2012, <http://www.nelson.wisc.edu/lrc/docs/Lessons-about-Land-Tenure-Forest-Governance-and-REDD.pdf>. (Accessed March 23, 2014.)
- “Organic Act for Autonomous Region in Muslim Mindanao,” *USAID*. 2003, [http://pdf.usaid.gov/pdf\\_docs/PNACU004.pdf](http://pdf.usaid.gov/pdf_docs/PNACU004.pdf). (Accessed March 22, 2014.)
- “The Amazon in Graphics: Amazon Rainforest,” *BBC*, 2008, <http://news.bbc.co.uk/2/hi/americas/7360258.stm>. (Accessed March 21, 2014.)
- “The Crossing Point between REDD and Indigenous Peoples’ Stewardship Rights: An ethical perspective,” *University of Oslo Faculty of Law*. 2010, <https://www.duo.uio.no/bitstream/handle/10852/22655/MasterxThesis.pdf?sequence=1>. (Accessed February 10, 2014.)
- “Theocentrism and Pluralism: Are They Poles Apart?” *Institute of Policy Studies, Islamabad*, 2008, <http://www.ips.org.pk/islamic-thoughts/1053-theocentrism-and-pluralism-are-they-poles-apart>. (Accessed May 3, 2014.)

- “Tropical Forests and Climate: Brazil’s success in reducing deforestation,” *Union of Concerned Scientists*. 2011, [http://www.ucsusa.org/assets/documents/global\\_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf](http://www.ucsusa.org/assets/documents/global_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf). (Accessed March 10, 2014.)
- “What We Do: Protect Forests for Future Generation,” *FSC*. <https://us.fsc.org/what-we-do.186.htm>. (Accessed March 30, 2014.)
- Abedi-Sarvestani, Ahmad and Shahvali, Mansoor. “Environmental Ethics: Toward an Islamic Perspective,” 2008, <http://www.idosi.org/aejaes/jaes3%284%29/15.pdf>. (Accessed February 10, 2014.)
- Ally, Shabir. “Environment and Islam. Climate Change: A Call for Personal Changes,” 2009, <http://www.whyislam.org/social-values-in-islam/social-ties/environment-and-islam/>. (Accessed May 11, 2013.)
- Bauch, Simone and Sills, Erin. “Forest Policy Reform in Brazil,” 2009, [http://www.academia.edu/213876/Forest\\_Policy\\_Reform\\_in\\_Brazil](http://www.academia.edu/213876/Forest_Policy_Reform_in_Brazil). (Accessed May 18, 2014.)
- Dalile, Bushra. “Environmental Ethics: Between Anthropocentrism and Ecocentrism,” [https://academia.edu/1476524/Environmental\\_Ethics\\_Between\\_Anthropocentrism\\_and\\_Ecocentrism](https://academia.edu/1476524/Environmental_Ethics_Between_Anthropocentrism_and_Ecocentrism). (Accessed March 19, 2014.)
- Deforestation Threats,” *WWF*. <https://worldwildlife.org/threats/deforestation>. (Accessed February 10, 2014.)
- Eastaugh, Chris. “BC Journal of Ecosystem and Management: Green Philosophies in the Face of Climate Change,” 2011, <http://jem.forrex.org/index.php/jem/article/view/21/46>. (Accessed April 1, 2014.)
- Elisara-La’ulu, Fiu Mata’ese. *Getting to the Roots: Underlying Causes of Deforestation and Forest Degradation, and Drivers of Forest Restoration*. Samoa: 2010, <http://www.globalforestcoalition.org/wp-content/uploads/2010/11/Report-Getting-to-the-roots1.pdf>. (Accessed February 10, 2014.)
- Gamborg, Christian. *Sustainability and Biodiversity: Ethical Perspectives on Forest Management*. Hørsholm: 2001, [http://curis.ku.dk/ws/files/13035957/Christian\\_Gamborg.pdf](http://curis.ku.dk/ws/files/13035957/Christian_Gamborg.pdf). (Accessed February 15, 2014.)
- Hoffman, Andrew and Sandelands, Lloyd. “Getting Right with Nature: Anthropocentrism, Ecocentrism and Theocentrism,” 2004, <http://deepblue.lib.umich.edu/bitstream/handle/2027.42/39158/903.pdf?sequence=1>. (Accessed March 26, 2014.)
- Hussain, Mumtaz. “Significance of Forest in Islam,” 2011, [http://pecongress.org.pk/images/upload/books/\(7\)%20Significance%20of%20Forest%20In%20Islam%20by%20Engr.%20Mumtaz%20Hussain.pdf](http://pecongress.org.pk/images/upload/books/(7)%20Significance%20of%20Forest%20In%20Islam%20by%20Engr.%20Mumtaz%20Hussain.pdf). (Accessed March 18, 2014.)
- Joseph, Suad. “EW&IC: Muslims in the Philippines,” 2014, <http://sjoseph.ucdavis.edu/ewic-public-outreach-resources/ewic-outreach-resources/muslims-in-the-philippines>. (Accessed March 10, 2014.)
- Macqueen, Duncan. “Forest Ethics: The Role of Ethical Dialogue in the Fate of the Forests,” *IIED*. <http://pubs.iied.org/pdfs/13511IIED.pdf>. (Accessed February 10, 2014.)
- Manning, Robert, Valliere, William, and Minter, Ben. “Values, Ethics, and Attitudes Toward National Forest Management: An Empirical Study.” *University of Vermont*. 1999, [http://www.uvm.edu/parkstudieslaboratory/publications/Values\\_Ethics\\_and.PDF](http://www.uvm.edu/parkstudieslaboratory/publications/Values_Ethics_and.PDF). (Accessed February 10, 2014.)
- Matali, Zabariah Haji. “Sustainability in Islam,” [http://www.earthcharterinaction.org/invent/images/uploads/10%20Manuscript\\_Zabariah.pdf#37](http://www.earthcharterinaction.org/invent/images/uploads/10%20Manuscript_Zabariah.pdf#37). (Accessed May 9, 2013.)
- Musaji, Sheila. “The American Muslim: Environment and Ecology in Islam,” 2012 [http://theamericanmuslim.org/tam.php/features/articles/environment\\_ecology/](http://theamericanmuslim.org/tam.php/features/articles/environment_ecology/). (Accessed March 30, 2014.)
- Ozdemir, Ibrahim. “An Islamic Approach to the Environment,” 2002, [http://www.islamawareness.net/Nature/environment\\_approach.html](http://www.islamawareness.net/Nature/environment_approach.html). (Accessed March 26, 2014.)
- Qura’n, <http://quran.com/2>. (Accessed May 4, 2014.)

- Reid, Walter V., Mooney, Harold A., Cropper, Angela, Capistrano, Doris, Carpenter, Stephen R. et al. *United Nations Environment Programme*, Washington, DC: Island Press, World Resources Institute, 2005. s.v. "Ecosystems and Human Well-Being: Synthesis, Millennium Ecosystem Assessment," [http://www.unep.org/maweb/documents/document.356.aspx.pdf #6](http://www.unep.org/maweb/documents/document.356.aspx.pdf#6). (Accessed May 3, 2013.)
- Shomali, Mohammad. "Aspects of Environmental Ethics: An Islamic Perspective," [http://www.thinkingfaith.org/articles/20081111\\_1.pdf](http://www.thinkingfaith.org/articles/20081111_1.pdf). (Accessed May 13, 2013.)
- Spilsbury, Richard. *Can the Earth Survive? Deforestation Crisis*. New York: Rosen, 2010.
- Tanjilil, Abdulwakil. *Alkhalifa (The Steward): What Every Muslim Needs to Know about His Role in Environmental Governance*. Philipines: 2007, [http://pdf.usaid.gov/pdf\\_docs/PNADL915.pdf](http://pdf.usaid.gov/pdf_docs/PNADL915.pdf). (Accessed March 17, 2013.)
- Welchman, Jennifer. "A Defense of Environmental Stewardship," [https://www.academia.edu/335593/A\\_Defense\\_of\\_Environmental\\_Stewardship](https://www.academia.edu/335593/A_Defense_of_Environmental_Stewardship). (Accessed March 23, 2014.)
- Worrel, Richard and Appleby, Michael. *Stewardship of Natural Resources: Definition, Ethical and Practical Aspects*. Netherlands: 2000, <http://search.proquest.com.ezproxy.rit.edu/docview/196564943?accountid=108>. (Accessed April 11, 2014.)
-