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Global Efforts to Bridge Religion and Conservation: Are They Really Working?

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1. Introduction

1.1 The biodiversity crisis and the need for global collaboration

It has been close to half a century since Rachel Carson's *Silent Spring* was published – a book that marked the beginning of the modern environmental movement – yet the biodiversity crisis has increased to staggering proportions. The International Union for the Conservation of Nature (IUCN) estimates that the current species extinction rate is between 1,000 and 10,000 times higher than natural rates (IUCN, 2011). According to the United Nations Food and Agriculture Organization's (FAO) Global Forest Resources Assessment 2005, forests have disappeared in 25 countries and deforestation clears about 12 million hectares annually, including six million hectares of primary forests in Latin America, South-East Asia and Africa (FAO, 2006). Twenty percent of coral reefs have been destroyed and 30 percent damaged due to destructive fishing practices, pollution, disease, coral bleaching, invasive alien species and tourism (Millennium Ecosystem Assessment, 2005; Wilkinson, 2008). Driven by habitat destruction, invasive species, pollution, human overpopulation and over harvesting (all human-centred activities), the global loss of biodiversity is advancing at an unprecedented rate with an extinction of 150 species occurring daily (Chen, 2003; Sigmar, 2007). The United Nations Environment Programme (UNEP) reports that the natural systems that support the world's economy are at risk of collapse due to increasing biodiversity loss: declining fish stocks, deforestation and soil erosion (Murray, 2010). However, response to the crisis has been slow. For instance, the Convention on Biological Diversity's target to reduce the rate of biodiversity loss by 2010 was missed (Butchart et al., 2010).

The paucity of response by governments, corporate organizations and the public may be attributed to several factors, which include but are not limited to modicum of biodiversity awareness by humans and competing factors such as poverty alleviation, unending growth in consumption and human numbers, war, terrorism, healthcare, political and economic challenges. Novacek (2008) posited that the public is a primary force for generating

momentum to drive governments and business corporations in dealing with the biodiversity crisis. Although the public is made up of a wide range of groups in different social positions – women, men, adults, children, old, workers, professionals, the wealthy, etc. – all with differing and sometimes competing interests, only some of these groups can reach decision-makers. To have an effect, groups must be organized and be able to reward and admonish. The biodiversity crisis is global and connected to all humanity, although in different ways: some benefit from destroying biodiversity; others are hurt by such destruction, materially or psychologically; and for most, the immediate effects of loss are distant. Since the crisis knows no jurisdiction, geopolitical zones or national boundaries, harnessing public interest and involvement throughout the world could present an immense opportunity for biodiversity conservation. Human history documents the centrality of religion in regulating peoples' actions, including ecologically important behaviour, and the role of religious-based mobilization in creating policy changes (Rappaport, 1974, 1976, 1999; Wilson, 2002). In this light, it is important to better understand the potential of religion-based public support for conservation of biodiversity and the environment. Approximately four billion people in 125 countries listed in Conservation International's (CI) biodiversity hotspots are affiliated with one of 11 mainstream faiths (Bhagwat & Palmer, 2009), and many at the same time practice indigenous traditional religions. There is a need to assess past and current efforts to link religion and conservation to affirm their practicality and, if appropriate, suggest an effective path forward. This review will therefore: first, examine the rationale for the bridging of religion and conservation; second, provide a brief history of the efforts to bridge religion and conservation; third, highlight projects in different parts of the world that bridge religion and conservation showing their outcomes; and fourth, analyze successes and challenges in religion-based mobilization on behalf of conservation.

2. Why religion-based mobilization could strengthen conservation

Although significant, efforts by scientists and conservation organizations to conserve biodiversity have proven insufficient in curbing biodiversity loss. What, therefore, can the conservation community do to engage groups to foster behavioural (both individual and structural/institutional) changes for biodiversity conservation? This change would need to pervade every community worldwide and cascade across generations in perpetuity to secure the future of biodiversity. All individuals have values, attitudes, motivations and judgments, and these are often based in and sanctified by religious beliefs. Religion is a powerful influence on human behaviour, guiding thought processes and daily living for over 80 percent of the global population (Rappaport, 1979, 1999; Higgins, 2011). Targeting a person's deeply entrenched paradigm such as a religious worldview may be more effective in persuading people to make changes in daily behaviour, including engaging in activity to influence institutions on behalf of biodiversity. According to Gambrill (2011), Muslim fishers in Misali Island, west of Pemba, Tanzania, once threatened important turtle nesting sites and delicate coral slopes through dynamite fishing. Efforts by government and environmental agencies to educate the populace proved ineffective until the Islamic Foundation for Ecology and Environmental Sciences (IFEES) conducted two environmental ethics workshops based on the Qu'ran, in 1998 and 2001. The central message from the Imams to the madrasa teachers and fishermen leaders was that dynamite fishing was illegal according to Islam, and the fishermen responded by ending this practice immediately.

Faith communities comprise the largest social organizations in the world, spanning national and other divisions. They possess centuries of experience in offering practical and authoritative guidance in daily living that could benefit biodiversity. A World Bank report (2006, page 1-2) identifies three paths for religious influence: “1. They can teach about the environment and natural systems upon which life depends; 2. They can provide leadership in initiating practical environmental projects and 3. They can seek to persuade their members that each individual has a moral obligation to contribute in some way to conservation, and can provide guidance on how to pursue environmental management objectives”. They can also instigate political action on behalf of biodiversity. In the United States for example, a network of churches was able to mobilize politically and help stop the U.S. Congress from weakening the Endangered Species Act (Barcott, 2001). Also, the Religious Bodies Environmental Network (RELBONET) in Ghana has lobbied the Government of Ghana to work on climate change issues (Otabil, 2010). Rolston (2010) opines that religious faith can make a unique contribution to environmental policy. He argues that scientific reasoning is able to give only partial and value-free guidance but religious faith and communities can, and have already begun to offer what science lacks: “a value-laden, unified understanding of creation, humankind and our obligations as stewards of the earth”.

The potential of religion to support conservation goals has elicited significant interest and generated dialogue since the World Wildlife Fund’s (WWF) summit on religions and conservation in Assisi, Italy in 1986 (there are also historically deeper examples such as Buddhism teaching compassion for all things and St. Francis of Assisi opposing animal cruelty). However, the history of religions reveals many aspects that are antithetical to conservation and also a great heterodoxy, with different traditions within and among religions concerning the natural world. The dominant tendency in many faiths is anthropocentric such as the Abrahamic (Judaic, Christian and Islamic) belief that humans are stewards of Yahweh-God-Allah’s creation which has been given to us as a gift. Other traditions such as Jainism are biocentric and hold that every being – animal, plant or human – has a soul and should be treated with respect (Hall et al., 2009). These are complex waters for conservationists to navigate.

In seeking cooperation with religious institutions, it helps to distinguish between religious scripture and practice that directly protects some natural places as sacred and scripture and practice guides or prescribed behaviours that affect nature. We will look at each in turn.

First, common ground between religions and biodiversity protection is found throughout the world in the form of sacred natural sites and religious-based behavioural control systems (Dudley et al., 2005). Religions such as Animism, Hinduism, Buddhism and African Traditional Religion¹, among others, protect sacred species, groves, and forests. For example, one African Traditional Religion in Osun State, Nigeria protects the Osun-Osogbo sacred groves; they were named by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a World Heritage Site in 2005 (UNESCO, 2011). Unique flora such as *Adansonia digitata*, *Bombax buonopozense*, *Newbouldia laevis* and *Melicia excelsa* found in the Osun-Osogbo sacred groves are preserved by the locals based on beliefs of the sacredness of these species (Babalola, 2009). The Baka (pygmy) people, who inhabit the

¹African Traditional Religion means indigenous religious beliefs and practices of Africans. Source: Awolalu (1976)

forests of Lobeké National Park in southeast Cameroon, adhere to a complex faith system that includes the adoption of a personal deity in adolescence and the worship of particular groves and trees inside the forest believed to be of high spiritual value. These sacred places are carefully protected (Dudley et al., 2005). Societies conserved sacred sites long before the emergence of modern protected areas. This is probably the oldest method of habitat protection on earth and still forms a large and unrecognised network of sanctuaries around the world (Dudley et al., 2005; Verschuuren et al., 2010). The WWF and Alliance of Religions and Conservation (ARC) report (Dudley et al., 2005) included a partial survey of 100 protected areas around the world that included sacred sites as well as sacred areas outside of protected areas that have high conservation values. The study revealed that links between faiths and protected areas are neither unusual nor limited by either geography or faith; rather the links are substantial and pervasive.

Second, many religious believers look to local and global religious authorities for guidance not only concerning larger purposes and meaning but for how to live their daily lives in accordance with their larger purposes. For this reason, religious leaders have the capacity to convey to their believers how their values can direct their behaviour toward the natural world in ways that conserve biodiversity. Religious leaders whose influence extends globally can transcend national boundaries, which are often a stumbling block in conservation. Biodiversity hotspots identified by CI (Bhagwat et al. 2011a) are located in countries in which 70 percent of the population on average adheres to a religion. The power of religion to check destructive behaviour in the face of challenges ranging from political instability and conflict to poverty and lack of empathy for other creatures is significant, and if it can be mobilized in support of biodiversity it would be a noteworthy achievement (Rappaport, 1999).

Because many religions are concerned with the human environment, not biodiversity, there is not yet consensus on what to do about biodiversity conservation and whether it should be a priority. When conservationists seek support, they need to know their audience.

3. A brief history of efforts to bridge religion and conservation

The earliest major effort to bridge religion and conservation was in 1986 during the celebration of the 25th anniversary of WWF at the Basilica of St. Francis in Assisi, Italy. The meeting was convened by His Royal Highness Prince Philip, Duke of Edinburgh, then President of WWF/International. It brought together 800 people and generated the *Assisi Declarations*, which included extractions of environmental ethics from five mainstream faiths: Buddhism, Christianity, Hinduism, Islam and Judaism (Sponsel, 2007). The meeting also initiated the Network on Conservation and Religion sponsored primarily by the WWF. In 1995, Prince Philip hosted another summit, held in Windsor Castle, England. Nine major world religions – the Bahá'í Faith, Buddhism, Christianity, Hinduism, Jainism, Judaism, Islam, Sikhism and Taoism – along with key officials from several major secular institutions gathered to discuss how the world's religious communities might become engaged in environmental conservation (One Country, 1995). Key results from the summit included a dramatic commitment by each of the faith communities to heighten their efforts at furthering the cause of conservation within their own fold, along with a new level of interfaith cooperation and agreement (One Country, 1995). The summit also marked the

evolution of the Network on Conservation and Religion into a more self-governing group called the Alliance of Religion and Conservation (ARC) (One Country, 1995). ARC is a secular body that assists the world's major religions in developing their own environmental programmes. The religious institutions work according to their core teachings, beliefs and practices. ARC currently works with 11 major faiths worldwide (ARC, 2011a).

Another cooperative effort is Harvard's Centre for the Study of World Religions. John Grim and Mary Evelyn Tucker (now at Yale University) started a series of conferences on religion and ecology from 1996-1998 bringing together over 800 environmentalists and international scholars of the world's religions (FORE, 2011). The conference "Science, Religion and the Natural World" was held May 11-14, 2000 at Yale University (Yale University, 2011) and resulted in the book "The Good in Nature and Humanity: Connecting Science, Religion, and Spirituality with the Natural World" (Kellert and Farnham, 2002). In 2006, the Forum on Religion and Ecology (FORE) at Yale University was established; it is the largest international multi-religious project of its kind (FORE, 2011). There are also several international faith organizations specifically dedicated to the environment, including the Association of Buddhists for the Environment, A Rocha, Islamic Foundation for Ecology and Environmental Sciences, Coalition on the Environment and Jewish Life, Evangelical Environmental Network and The Blessed Kateri Tekakwitha Conservation Centre (formerly the Catholic Conservation Centre). Furthermore, there is cooperation among different faith groups based on their common interest in conserving life on earth. Cooperation may be informal or formal, including organizations such as Interfaith Power and Light, World Council of Churches, All Africa Council of Churches, and Southern African Faith Communities Environment Institute. Secular organizations such as WWF, the Wilderness Society, United Nations Development Programme (UNDP), World Bank, CI, UNEP and IUCN all currently have or have had outreach programmes to bridge religion and conservation.

In November 2009, ARC and UNDP joined with 31 faith traditions to launch and celebrate their long-term commitments for a living planet. The collaboration resulted in the Guide to Creating Seven Year Plans (2010-2017) which centres on environmental action, reflection and thought. The Guide employed seven pivotal areas in which faiths possess influence - ranging from investments, through partnerships and media to education and celebration - offering ideas on how each can utilize their strengths to take specific steps toward increased biodiversity protection (ARC, 2011b).

4. A global review of specific projects that bridge religion and conservation

4.1 Conservation International (CI) Indonesia

CI Indonesia implemented the Islamic Boarding School and Conservation Project from December 2004 to June 2005 with an aim to facilitate, deepen and raise the awareness about religious arguments for forest and biodiversity protection and stewardship in Indonesia, and the linkage between conservation, human welfare and poverty alleviation (CI, 2005). The target audience of the project consisted of students, teachers, surrounding community members, religious leaders, pesantren (Islamic boarding school) scholars, individuals and institutions.

Although a relatively short project, the main activities were:

- Production of a book about nature conservation: 2,000 copies were distributed for free to schools, religious organizations and other stakeholders.
- Creation of a small grants program for Islamic boarding schools for activities relating to biodiversity conservation.
- Workshops that brought together participants to promote nature conservation in daily life and to link the Islamic community with environmental conservation efforts.

Lessons learnt included:

- An enthusiastic response concerning new publications related to conservation and Islam, namely "*Konservasi Alam Dalam Islam*" (Nature Conservation in Islam) and an Indonesia Forest Media and Campaign (INFORM) report: *Fiqh Al-biah*. The new approach to providing in-depth information on traditional Islamic wisdom and teachings concerning nature conservation changed peoples' perspective and their way of living with nature. Students from the pesantren who were given copies of *Konservasi Alam Dalam Islam* for example, coupled with the administration of a small grants programme for reforestation activities, planted 2825 trees from 15 species and conducted field activities related to forest and biodiversity conservation.
- Use of positive religious teachings (particularly Islamic teachings) as a soft approach to promoting conservation can lead to easier acceptance of environmental messages by communities around protected areas;
- Mosques and Islamic boarding schools can provide a practical environment for promoting conservation and environmental awareness; and
- There is little resistance on the part of the Islamic communities in Indonesia to bridging conservation and religious teachings, and this is seen as a positive correlation between religion, humanity and nature.

4.2 World Bank²

4.2.1 Papua New Guinea

In Papua New Guinea, the World Bank Faith and Environment programme supported construction of a centre for theological involvement in forest conservation, adjacent to a nature reserve in the Eastern Highlands province. The centre is also involved in the development of theological literature covering conservation issues. It started with a meeting of Christian leaders in Goroka in 2003, which led local churches to proclaim their commitment to care for the environment in Papua New Guinea. In the meeting, the idea of biblically based environmental stewardship was introduced for the first time for many attendees. Subsequent to the meeting, the World Bank together with TearFund Australia and World Council for Missions funded the production of a handbook on theology and the environment, entitled *Christians Caring for the Environment*, compiled by Evangelical Alliance; the book was endorsed by the Catholic archbishop of Papua New Guinea and now serves as a model for similar publications being prepared in Africa and the Pacific.

²Highlights of the following conservation projects with religious connections are from the World Bank (2006) report entitled "Faith and the Environment - World Bank Support 2000-2005".

4.2.2 South Africa

Working for Water, KwaZulu-Natal Department of Agriculture and Environmental Affairs, ARC, and South African faith-based organizations collaborated in establishing an innovative pilot project manufacturing affordable coffins made from invasive tree species. This partnership, with technical assistance from the South African Nursery Association, will also fund the growing of indigenous plants used for the restoration of areas cleared of invasive species; the planting of native trees also honours the memory of the dead.

4.2.3 Cambodia

In Cambodia, the World Bank in partnership with ARC supported Mlup Baitong, an NGO that provided environmental education and training. Target audiences during the five-year programme included 14 pagodas in rural areas in Kampong Speu and Kampong Thom provinces. Monks living in these pagodas as well as achars, nuns and villagers in the surrounding districts received instruction. In addition, these pagodas became promoters of sustainable development models for other neighbouring pagodas and all villages in the area. The Ministry of Environment, Department of Education, Provincial Environmental Department, National Park authorities and local officials also cooperated in the project. Monks and achars gave training on Buddhism and the environment and the practical application of these skills to villagers and visitors through lectures, workshops and closed-circuit radio programmes on Buddhist holy days. Some 55 workshops for monks were held including 450 village lectures given by the monks and two provincial network meetings for all participating monks. Tree nurseries are now well-established in the pagodas, and some of these seedlings are planted on pagoda grounds, while others are donated to the community. As part of the school environment programme, tree nurseries and compost bins have also been established in eight schools and over 1,000 trees have been planted with monks organizing seedling ordination ceremonies and tree planting days.

4.2.4 All Africa Council of Churches and Alliance of Religions and Conservation Collaboration

ARC collaborated with the All Africa Council of Churches to research the level of current activity connected to the environment and areas where churches in Africa would like to develop programmes. The study revealed that 76 respondent churches and councils viewed ecological sustainability as a commission by God to the church. In this view economic development must be managed in a manner that protects the environment; this is seen as “co-working with God” and caring for God’s creation. A high proportion of the respondent churches had projects connected to environmental management, with forestry and reforestation pinpointed as key areas.

4.3 A Rocha³

4.3.1 Ghana

A Rocha Ghana has been working since 2005 with the Collaborative Resource Management Unit of Mole National Park, district assemblies and surrounding communities in building

³For more information on these examples of A Rocha conservation projects, see Sluka et al. (2011).

consensus and support for sustaining the ecology of Mole National Park. A Rocha Ghana's engagement with surrounding communities mobilized support in part by appealing to their belief systems, linking conservation concerns to existing beliefs. Faith-based environmental messages were delivered to both Christian and Islamic groups in twelve communities by A Rocha Ghana. Also a Community Resource Management Area (CREMA) with a constitutional and legal framework has been established, giving these communities the authority and incentives to sustainably manage and conserve the local natural resources. The results of this project include a deeper commitment from local communities to use natural resources sustainably, demarcation of 681 km² of communal land designated as a core management area with access and use regulations supported with by-laws, and a reduction in illegal hunting and the return of wildlife to areas near CREMA villages. Many individuals benefited directly from natural resource-based enterprises such as beekeeping and local communities generated US\$7,100 in 2009. The Murugu-Mognori CREMA, which is 268 km² receives an annual revenue of US\$4,000 from the "Mognori Eco-Village" ecotourism initiative. Additionally, 72 households have enjoyed a 220 percent increase in household income from beekeeping alone and 30 households now enjoy additional income and improved nutrition from vegetable production.

4.3.2 Kenya

A Rocha Kenya was established in 1999 and works to protect Important Bird Areas on the north Kenya coast, especially the Arabuko-Sokoke Forest and Mida Creek. A Rocha Kenya formed ASSETS (the Arabuko-Sokoke Schools and Eco-Tourism Scheme) with a goal to conserve the forest and concomitantly allow families to benefit directly from its conservation by raising funds for community members' secondary school fees through ecotourism, thereby reducing one of the drivers of illegal logging. Project results as of September 2010 show that 378 children attended secondary school on ASSETS bursaries and 144 have graduated. To make certain that parents and students know that forest conservation is funding their schooling, both are engaged in environmental education activities, water conservation initiatives and litter clean-ups; they are also asked to pledge to abstain from illegal logging and poaching. ASSETS beneficiaries are also provided with free seedlings to grow their own woodlots to reduce pressure on the forest and tree nurseries have been established in local schools. A monitoring plan was developed in 2007 which to date has shown that parents of ASSETS students show a strong protective attitude toward the forest, a greater general environmental awareness and better understanding of the connection between forest conservation and their children's access to education.

4.4 The International Small group and Tree planting program (TIST)

4.4.1 Kenya, Tanzania, Uganda, Honduras, Nicaragua and India

In 1998, at the invitation of the bishop and his wife, a team of U.S.-based missionaries came to the Anglican Diocese of Mpwapwa in Tanzania to hold a seminar with subsistence farmers to discern the best practices for small groups based on servant leadership. The following year, another small group training seminar resulted in the farmers' development of a vision to reforest their land, eradicate famine, initiate health interventions and start new, small groups over the following year.

In response to the Tanzanian farmers' vision and to create a sustainable income for the farmers with a self-sustaining program, The International Small Group and Tree Planting Program (TIST), led by Clean Air Action Corporation, was born at the end of 1999. It was based on the God-centred small group best practices – including rotation of leadership, servant leadership, use of co-leaders, agreement to a covenant and accountability to one another – developed at the seminars, and addressed the overwhelming deforestation, drought and famine in the area through the church. By 2000, TIST was open to people of all religions. TIST's Board wanted whole communities to benefit (www.tist.org).

TIST implementation in Kenya, Tanzania, Uganda, Honduras, Nicaragua and India has resulted in more than 9,000 small groups with over 60,000 members planting 11 million trees. In 2011, TIST was validated and verified for their work in Kenya through the Verified Carbon Standard (VCS) and also by the Climate, Community & Biodiversity Standards (CCBS). TIST was the first carbon offset program in the world to have achieved dual certification. This strength and growth is founded on principles developed by faith communities sharing and acting on their vision of stewardship and action for the planet and servanthood to each other (*pers. comm.* Vannesa Hennecke, August 2011).

A key lesson learned is that faith communities and partners provide strong entry points (*pers. comm.* Vannesa Hennecke, July 2011). TIST's program was implemented in Kenya through Kenya's Forest Service, but most participants today are members of Catholic, Pentecostal and Anglican Churches. In Uganda, the program began with the Anglican Church. In Nicaragua and Honduras, TIST partnered with Catholic Relief Services to introduce the program.

4.5 Flora and Fauna International (FFI) and Uganda Wildlife Authority

4.5.1 Uganda

Rwenzori Mountains National Park is home to the Bakonjo and Baamba peoples. The Bakonjo have lived in the region for many generations, their culture adapted to its steep slopes and climate. Rwenzori Mountains National Park was inscribed on the list of UNESCO World Heritage Sites in 1994. Despite several interventions to interest neighbouring communities in the conservation of the Rwenzori Mountains, local communities did not show support for the park's conservation efforts (Muhmuza et al., 2009). In 2005, FFI undertook consultations about the meaning of the Rwenzori Mountains to local people. The economic and political realities of the area made interest in conservation difficult for local communities. In particular, the restrictive policies of the protected area designation were having negative impacts on local people, as they interrupted access to commune with their gods. The purely scientific values represented by protected areas created difficulties for the local communities who wanted to practice sacred rituals, gather herbs to prevent illness, and practice long-held beliefs and traditions (Muhumuza et al., 2009).

Staff from FFI and the Uganda Wildlife Authority (UWA) in 2009 undertook a consultative process among the local communities. During the consultations, the meaning and the important role of the mountain to local communities became clearer. Residents showed staff their sacred sites through which they commune with their gods up in the mountains and described their hierarchy based on ridges through which they interact and are governed. Local cultural institutions had been neglected by the central government, but the

communities continued to use them and revere them. With help of the ridge leaders, 15 sacred sites were identified and geo-referenced in the Park. Through a rapid ethnographic assessment on the sacred sites from July to September 2009, staff were able to better understand the associated beliefs and importance to surrounding communities, to incorporate local beliefs into planning and to gain more acceptance and participation by surrounding communities.

The assessment showed that the sacred sites play an important role in people's daily lives. There are rituals for health, ridge cleansing, rainfall and peace. The older members of the community were both knowledgeable about the sacred sites and interested in practicing cultural rituals when permitted. Local communities believe that improper ownership and use will result in severe punishment, including death.

Staff and communities identified and mapped Rwenzori's sacred sites. The cultural research also identified strong species-human linkages through taboos and totems. The Rwenzori Cultural Association was established to champion cultural values. The park's Management Plan was then reviewed and modified to reflect cultural values, and site-level plans were developed. The park managers and community members agreed on allowable community access to sites for specific functions in the park.

5. Reasons for successes and current challenges

The aforementioned successes may be attributed to several possible factors. First, conserving life on earth is a noble cause that can provide fulfilment and self realization to individuals pursuing it. Fulfilment in this pursuit presupposes existing values sympathetic to conservation, and many of these values are religious in origin, e.g., that creation is good and should be cared for. Second, longstanding religious leadership and charisma backed up by inspiration from sacred texts can be factors in fostering conservation action by religious devotees. Third, people have the natural inclination to contribute to a noteworthy cause provided it is of social significance and confers prestige, and religion helps to establish what is significant and prestigious in many communities. People do not act as individuals, but as part of small cohorts and larger communities. When the community or cohort leaders make certain behaviours a priority, others follow (Diani, 2003; Oliver & Myers, 2003). People also become and stay involved because they want to belong and maintain their relationships with others (Aminzade & Perry, 2001; Staggenborg, 2011). Where religious institutions are strong or central they define an important community.

Mobilizing communities for conservation action based on religious beliefs and belonging to religious communities does not occur without investment in organizing. Furthermore, several obstacles must be overcome. Bhagwat et al. (2011b) note three obstacles to making religion supportive of conservation: (1) difference in worldviews (i.e., religious versus secular groups and also between religions), (2) conflict between identities (i.e., strong religious identities; this may hinder the success of relaying conservation messages to a mixed audience of different faiths) and (3) divergent attitudes and behaviour. Jacobs and The Blessed Kateri Tekakwitha Conservation Centre (2011), for example, criticizes the Earth Charter – the 1992 UN declaration of fundamental principles for building a just, sustainable and peaceful global society in the 21st Century. They write that “superficially, the Charter

appears to be a noble concept designed to end social and environmental tensions around the world", but they are concerned that it furthers creation of a global super-state, which they do not support. They also note that neither Pope John Paul II nor Pope Benedict XVI endorsed the Earth Charter. This conflict in perspectives between religion and conservation may be largely due to divergent worldviews since worldviews have a strong influence on behaviour and attitudes and give particular meaning to diverse situations and events.

Although in many cases cultural values co-exist with religion in Africa, for example, especially indigenous religion, it would be instructive to know if cultural behaviour could respond to mainstream religious influence (e.g. Islam and Christianity) that stems from faith-based conservation messages. Cultural systems are often religion-based even though a religion may span many cultures, but not all elements of a culture are religiously based or justified. For instance, bushmeat consumption and trade are strong elements in many African cultures. Could such elements respond to mainstream religious influence? This calls for empirical analysis by conservation biologists and social scientists. Also, poverty is a social issue that pervades African society. Poverty pushes people to put pressure on biodiversity. Could religious values positively influence poverty-related natural resource challenges as they relate to biodiversity loss?

6. Conclusion

Based on our review, there is reason to be encouraged by this sampling of cooperative efforts of religious communities and institutions and conservationists. In the last two and a half decades since the 1986 Assisi meeting, cooperation has increased and the several joint projects undertaken have raised awareness, slowed illegal logging and poaching and found ways to benefit local communities in protecting biodiversity. If such trends are to continue, the world's religions should increase their concern and action on behalf of conservation. Likewise, the conservation community should develop a better understanding of religious values, and how they interface with conservation values.

To help bridge religion and conservation, the conservation community should reach out more effectively to religious leaders and gain a better understanding of religious concerns regarding the environment and biodiversity.

In addition to conducting research to benefit biodiversity, conservation biologists can help bridge religion and conservation by understanding differences in worldviews and by working with religious leaders and organizations to earn their trust and confidence. The linking of religion with conservation calls for direct relationships supported by conflict resolution skills, self awareness, trust and wisdom. Importantly, when conservation biologists and secular organizations interact with religious bodies, there must be a compromise of divergent perspectives so as to enable the emphasis to be on finding common grounds (e.g., saving creation), mutual respect and empathy. Indeed, in the light of this review, we see the inroads that have been made cannot be ignored. What the future holds for religion and conservation could be an upward spiral where there are an increasing number of people all over the world adopting the conservation ethic based on religious values; therefore what we need is to further explore the possibilities in the bridging of religion and conservation, as the global urgency before us leaves us little choice.

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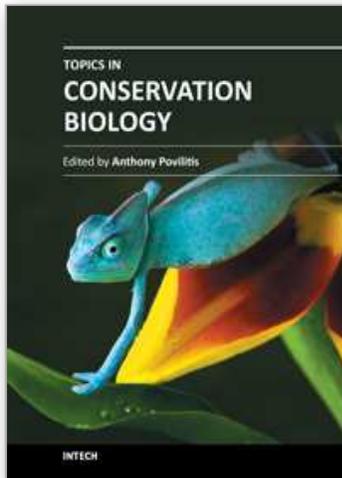
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Conservation biology is called a "crisis discipline." In a world undergoing rapid change, this science informs us about research, technologies, management practices, and policies that can help protect the earth's naturally-occurring biological diversity. The six chapters of this book provide insightful analysis on managing protected areas (Middle East), conserving biochemical and genetic diversity of carob tree (Tunisia) and wild pear (Japan), determining the health status of Amazon manatee, manipulating sex ratios to benefit wildlife, and narrowing the gap between religion and conservation. The authors approach threats to biological diversity from varied angles, reflecting the interdisciplinary nature of the field. This book offers room for reflection on the definition and utility of the word 'natural' on a planet now overwhelmingly dominated by people.

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