Reconciling Conservation and Development in an Era of Global Environmental Change: A Theocentric Approach

Benjamin S. Lowe, Rachel L. Lamb, and Ruth Padilla-DeBorst[1]

Longstanding friction between socioeconomic development and biodiversity conservation has become increasingly untenable in an unprecedented era of anthropogenic global environmental change. Despite numerous and high-profile attempts at better integrating these often-competing priorities, unresolved tensions remain as a result of dueling worldviews and approaches: much of development tends to be anthropocentric (centered on humans) while much of conservation remains eco/biocentric (centered on the bio/ecosphere). We offer theocentrism as a biblically normative and conceptually effective way to transcend and reconcile these conflicting worldviews. After providing a brief biblical overview of theocentrism, we highlight seven theoretical implications of this worldview. We then offer four practical applications for faith-based organizations along with examples of Christian groups that are seeking to more holistically integrate conservation and development in their work around the world.

Introduction

Many argue that we are now living in the Anthropocene, an age in which human activity exerts a more significant influence on the environment than natural processes (Crutzen 2002; Lewis and Maslin 2015; Steffen et al. 2011). Naming this geological epoch as the Anthropocene is a recognition of the "magnitude, variety, and longevity of human-induced changes" (Lewis and Maslin 2015, p. 171). Our species wields increasingly more power to shape the world and other lifeforms than ever before, and it is clear that the Anthropocene presents serious challenges for global development and conservation alike (Slimbach 2020).

Through the 'planetary boundaries' paradigm, scientists have sought to identify a safe operating space for humanity, where human societies do not fundamentally alter the processes that regulate earth system functioning (Rockström et al. 2009). This framework provides a science-based analysis of the risk that humans, through business-as-usual activities, will destabilize the earth system at the planetary scale (Steffen et al. 2015). While acknowledging that some level of human activity is necessary and safe, this approach also emphasizes that maintaining the current trajectory of change will result in severe consequences for many species, including the creation of a world unlike anything humans have experienced before.

Within this context, the United Nations (UN) has declared 2021-2030 the Decade on Ecosystem Restoration (UN 2015). Situated across the UN's seventeen Sustainable Development Goals (SDGs), this initiative elevates ecosystem services restoration as a global priority, with essential benefits for climate, biodiversity, food security, and water supply (Waltham et al. 2020). Along with other high-profile efforts, such as the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), it highlights the growing recognition that integrating conservation and development is imperative to addressing the emergent problems of the Anthropocene. International funding structures such as the Green Climate and Green Development Funds have also formed to catalyze innovative programs at these intersections. Notwithstanding these efforts, the conservation and development communities have long struggled to reconcile their perspectives and priorities, and the tension between "people-first" or "nature-first" remains (Newsham and Bhagwat 2016).

[1] The authors are grateful to two anonymous reviewers for their helpful feedback on this article.

Despite its ability to uniquely engage conservation and development together, the Church and its ministries have largely fallen short in addressing this growing need and taking seriously the Anthropocene and its implications for ongoing growth and development. Pursuing the mutual flourishing of people and the rest of nature should be something Christians see as fundamentally biblical and well-aligned with the mission of God's people (Wright 2010; Moo and Moo 2018). Such an endeavor is an integral part of the Christian calling and offers an opportunity to help lead the transition toward a more faithful integration of what are often perceived as competing priorities in God's world.

There is also a growing openness and recognition across much of society that religion in general, and Christianity in particular, has the potential to make critical contributions in this nexus; not just around relief and development (e.g., Deneulin and Rakodi 2011; Tomalin 2015), but also when it comes to conserving biodiversity (e.g., Bhagwat et al. 2011; Mikusiński et al. 2014), addressing climate change (e.g., Jenkins et al. 2018; Wilkinson 2012), and promoting sustainable development (e.g., Deneulin et al. 2016; UNEP 2020; Tomalin et al. 2019). These perceptions derive from Christianity's considerable ethical (and normative), socio-cultural, economic, and spiritual resources, which, when engaged via Christian relief and development organizations and Christian environmental organizations, serve as extended ministries of the Church and its members.

In light of this opportunity for greater faithfulness, this paper provides an overview of current global efforts to integrate conservation and development, highlights the underlying conflict between anthropocentric versus bio/ecocentric perspectives, and proposes theocentrism as a more biblical and effective approach. We conclude by offering practical suggestions for how Christian non-governmental organizations (NGOs) can pursue theocentric approaches to reconciling conservation and development.

Recent Attempts at Integration

Ongoing attempts to form an environmentally "sustainable" international development agenda sit against the backdrop of longstanding debate about whether and how to reconcile conservation and development. Although a full historical review is beyond the scope of this article, it is important to note that current conservation and development movements both stem heavily from the same historical processes of European imperial expansion and the intensification of global trade, with a particular focus on the commodification of nature (Castree, 2008, Newsham and Bhagwhat 2016). Economic activity and growth remain at the heart of developmental trajectories, while the imperative for conservation reflects a concern with these trajectories' environmental impacts (Newsham and Bhagwhat 2016). Though often perceived as oppositional, environmental historians note that international conservation interventions emerged from the same "kind of homogenizing, capital-intensive transformation of people, trade, economy and environment" that fueled European colonization (Grove, 1995:2, in Newsham and Bhagwhat 2016). Simply put, "it was this push for territory and trade which made scientific conservationism a truly global phenomenon" (Newsham and Bhagwhat 2016, 21).

Despite their shared historical origins, conservation and development initiatives have largely been "organized to run along parallel tracks and to be kept separate from each other" (Newsham and Bhagwat 2016, 76). Thus, the friction between conservation and development organizations stems in part from a history of attempting to impose an artificial dichotomy between nature and society, and between humans and wilderness (Ridder 2007, Siipi 2008). While conservation efforts are located in nature (and for nature), development is assumed to be in society (and for people) (Newsham and Bhagwat 2016).

It is unsurprising then that many contemporary approaches to reconciling the two fall along a complex gradient including: "1) treatment of conservation and development as separate policy realms; 2) identification of poverty as a critical constraint on conservation; 3) recognition that conservation should not compromise poverty reduction; and 4) the assertion that effective conservation depends on poverty reduction" (Adams et al. 2004; as cited by Newsham and Bhagwat 2016, 211). The range of solutions supplied by conservation and development organizations are equally varied in emphasis.

On the conservation front, at least three broad nature-based approaches exist for reconciling conservation and development in the Anthropocene, including neo-protectionism, natural capital conservation, and convivial conservation (Van Dyke and Lamb 2020a). For example, E.O. Wilson's neo-protectionist "half-earth" proposal would dedicate one half of the earth to nature and the other to humans living within a "safe operating zone" (Wilson 2016). This approach asserts that conservation can be used as a tool to protect nature from people. In contrast, natural capital conservationists suggest that such proposals are insensitive to human need and instead propose strategies for promoting the health and prosperity of people and nature together—an enlightened human, social, and economic development (Marvier et al. 2019). Here, the conservation (or perhaps commodification) of nature is essentially for people. A third paradigm of 'convivial conservation' asserts that instead of marketing nature as potential capital

accumulation, nature can be promoted as areas where people are considered "welcome visitors, dwellers or travelers rather than temporary alien invaders upon a nonhuman landscape" (Büscher and Fletcher 2019). The goal is to build "long-lasting, engaging and open-ended relationships with nonhumans and ecologies," supporting local ownership and management with conservation-based local incomes (Büscher and Fletcher 2019). Such an approach seeks to break the "from-humans and for-humans" dichotomies, but still leaves open-ended questions about implementation where there may be conflict between local, national, and global priorities in the face of rampant global environmental change.

Such conversations in the world of conservation parallel discussions about appropriate integration from the vantage point of international development. The 1972 Stockholm Conference is widely considered to be the start of sustainability thinking within the international development arena, paving the way for a series of subsequent multilateral negotiations. In 1992, the UN Conference on Environment and Development (the Rio Summit) resulted in the creation of five major environmental documents, including Agenda 21, a comprehensive work plan to address "social and economic dimensions of environment and development, conservation and management of resources, and means of implementation" (Van Dyke and Lamb 2020b, 516).

An ambitious plan, the integration of social-ecological decision-making has been hard to achieve in the context of international law and policy (Anderson et al. 2019). Agenda 21 led to the development of both the Millennium Development Goals (2000-2015) and Sustainable Development Goals (SDGs; 2016-2030), both of which include overtly environmental goals. In fact, the word "sustainable" in "SDG" suggests a cross-cutting theme of environmental protection across all goals. Still, "to account for the competing political, socioeconomic, and environmental interests that are common in conservation policy, compromises are typically made during [SDG] target development and implementation, which can weaken their primary objectives" (Doherty et al. 2018, 810).

The 1987 UN Brundtland Report, promising to diffuse tensions between environmental protection and economic growth, popularized the triple-bottom-line (people, profit, planet) approach, which claims to dissolve the old conflict between economic growth and biophysical limits, eliminate confrontation over who is entitled to the lion's share of remaining growth, avert the question of northern overconsumption, and be universally applicable (Carruthers 2001). Despite the lofty rhetoric, many global initiatives have shown in practice that "when push has come to shove, safeguarding the prospects for short-to-medium term economic growth has been deemed more important than environmental concerns" (Newsham and Bhagwat 2016, 41). There is a functional hierarchy to the "triple-bottom-line" model. Post-development scholars have also questioned this concept of 'sustainable development' altogether, arguing that there should be alternatives to development itself, rather than alternative forms of development that still reflect capitalist ideologies (e.g., Escobar 1992, O'Connor and Arnoux 1993, Sachs 2010).

Persisting Dichotomies

This challenge of reconciliation persists in both the conservation and development communities. At the end of the day, the primary goal for many conservation organizations is still to protect biodiversity and ensure ecosystem health, with humans as a necessary but challenging species to motivate, respect, and involve. And, while promising sustainability, much of international development still starts with increasing the economic well-being of people through capitalism and claims environmental protection as a necessary but secondary and potentially compromisable objective. There is a wide range of programs designed to further reconciliation of these approaches, including integrated conservation and development projects (ICDPs), payment for ecosystem services (PES) schemes, and community-based ecotourism ventures (Table 1). These efforts should not be underappreciated; we need creative solutions. Yet many of these efforts can still fall short because they are functionally anthropocentric at their core.

These tensions have left organizations struggling along the continuum between anthropocentric (human-centered) versus ecocentric (ecosystem-centered) or biocentric (life/biosphere-centered) efforts. Weak and strong versions of anthropocentrism and bio/ecocentrism play out in practice (Norton 2017), with the practitioner feeling like they are in an unending tug of war with no way out other than to pick a place on the rope and pull for their side. Even Aldo Leopold, considered one of the founders of ecocentrism through his development of the land ethic, may not have fully resolved the tension between claiming human responsibility for the conservation of the land-community and simultaneously asserting that humans are only "plain members and citizens of it" (Leopold 1949).

Forging ahead on such a continuum has been made even more challenging in light of global environmental change, which is negatively impacting nearly every biogeochemical cycle, with correlated negative impacts on people (Foley et al. 2005; Foley et al. 2011). Human activity through industrialization and globalization is fundamentally altering our ecologies in

ways that force us to reconsider the long-term viability of those very same activities (e.g., Vitousek et al. 1997; Tilman et al., 2002). In this context, "humans" and "nature" are regularly pitted against each other when, in fact, their futures are increasingly caught up together:

Table 1: Common approaches to integrating conservation and development globally *

APPROACH	DESCRIPTION*	RECENT REVIEWS
Integrated Conservation and Development Projects	Projects where local communities share the benefits of plant or animal resources at sustainable levels, take ownership of the conservation of such resources, and retain an active role in decisions affecting resource use and management to their individual and collective benefit	Blom et al. 2010 van Velden et al. 2020
Payments for Ecosystem Services	Voluntary, conditional agreements between at least one "seller" and one "buyer" targeting a well-defined environmental service or land use providing such a service; creates a novel market for goods and services that might otherwise be left out of traditional markets with clear economic incentives for protection	Jack et al. 2008 Farley and Constanza 2010
Community-based Ecotourism	Travel to natural areas that conserves the environment and sustains the well-being of local people by linking conservation with local livelihoods; financial models can include initial investment capital from NGOs in exchange for biodiversity protection or center on tourism revenues	Kiss 2004 Ortega-Álvarez et al. 2020

** Descriptions derived from material in Van Dyke and Lamb 2020d*

> [E]cological sustainability is the sine qua non for any talk of any other human or ethical concern. If we destroy the conditions of human life on the planet, no other concerns will be relevant at all. ... The short history of the environmental movement clearly reveals that when human well-being is set against the well-being of other species, as in "save the babies, not the whales," or "save our jobs, not the snails," everyone loses (Gushee 2010, 253).

The solutions we might have taken to address conservation and development challenges over the past century must now become "Anthropocene-informed," including adaptive to new environmental conditions that may be rapidly diverging from historical precedent (Van Dyke and Lamb 2020c, Dhyani et al. 2020). The scale and pace of change underscore the importance of better coupling ecological and community resilience in the face of altered baselines, climate uncertainty, and shifting livelihoods (IRP 2019). Doing so from either an anthropocentric or ecocentric perspective only adds to the challenge.

The urgency of our global situation has led some nation-states and international organizations to seek short-term solutions without full consideration of the long-term impacts. Some downplay the seriousness of global environmental challenges in order to focus on meeting current human needs first, utilizing the same approaches that created the problems to begin with. Others advocate the preservation of biodiversity and ecosystems, regardless of impacts on local human populations, intensifying tensions with communities and often undercutting their primary conservation goals. These reactions further magnify ongoing debates between diachronic (i.e., intergenerational) and synchronic justice, where "diachronic justice focuses on justice across time, in contrast to synchronic justice, which focuses on justice within the same time (e.g., among those currently alive)" (Lowe 2019, 481). Regardless of how these tensions are negotiated, it is increasingly important to include future generations as additional stakeholders in current deliberations around our "common but differentiated" responsibilities in the Anthropocene (Lowe 2019; Stone 2004).

Ultimately, the pervasive "people versus nature" clash is a self-defeating and false dichotomy. Both development that ends up unsustainably degrading the environment and conservation that ends up oppressing and marginalizing people ultimately fail (Newsham and Bhagwat 2016). And half-hearted or incomplete attempts to integrate the two fail because human-imposed hierarchies and interests still win the day. Even the term "ecosystem services" suggests an instrumental value of nature for people, with little to no consideration to the potential exclusion of the intrinsic value of non-human species. Goals must be explicit relative to intended ends, and we need more rigorous approaches that transcend dichotomies to truly pursue and value mutual flourishing as the primary goal.

What Does a Biblical Perspective Offer?

Counter to the above conflicting worldviews, the Bible offers a robust and distinctly **theocentric** approach to understanding reality, the world, and how humans fit in with the rest of the natural order. As its name suggests, theocentrism centers God and assents to God's will and governance (Gustafson 1981). It emphasizes that "'the earth is the LORD's and all that is in it, the world, and those who live in it' (Ps 24:1) ... God is the source of creation; it is his amazing handiwork, and to God belongs ownership and rule over what he has created" (Gushee 2010, 247). It acknowledges the authorial claim of God over the entire created order (Gonzalez, 2015, 17). This directly contrasts with the "people-first" or "nature-first" approaches of anthropocentrism and bio/ecocentrism respectively (Table 2).

Table 2: A generalized comparison of major worldviews related to the environment

CATEGORY:	ANTHROPO-CENTRISM	BIO/ECOCENTRISM	THEOCENTRISM
Priority	Human Beings	All life/species (biocentrism) or ecosystems (ecocentrism)	God
Goal	Advance human well-being	Advance biological or ecological well-being	Advance/obey God's will
View of non-human creation	Natural resources, to manage/exploit for the sake of humans	Moral subjects, each with their own intrinsic worth and interests	God's creation; humans are to live responsibly with the rest of creation, which does not exist just for human use
View of human creation	Apex of the natural world with the right to use it for own purposes	Problems to manage/restrain in order for nature to flourish unhindered	Unique members of the community of creation tasked with the responsibility to serve as God's ambassadors

As the overarching and normative biblical worldview, theocentrism continually draws our attention back to God—the source and center of all value—and not to ourselves or our species:

> Although the Bible gives a great deal of attention to humans—it is indeed a text for and about humans—they are everywhere in the Bible embedded in the larger context of the creation and especially in their relationship with God. If humans have intrinsic value in the biblical tradition, then so does the rest of the natural world because humans and the rest of the natural world are valuable as part of God's creation—an ecocentric worldview, if you will. But the creation itself has value only in as much as it is the creation of God, who remains in relationship with it. God imputes the creation—humans, animals, the land—with value, and God the creator is the measure of all that is good and right in the world. The biblical worldview is first and foremost theocentric (Simkins 2014).

Theocentrism thus grounds the value of all creation in its shared and sacred source, which is the Creator, not humans.

Ironically, Christianity is widely perceived as (and often guilty of) being anthropocentric. In Western academic and scientific arenas, this association was popularized in large part by Lynn White Jr.'s seminal article, The Historical Roots of Our Ecological Crisis (White 1967). A historian, White blames Western Christianity for driving environmental degradation by promulgating a worldview characterized by the hubristic domination of nature for human purposes. In other words, White asserts that Western Christianity promotes anthropocentrism and does so to great effect. While there is much to be said for White's claims, considerable scholarship over the decades since has raised important nuances and critiques (e.g., Kanagy et al. 1995; Hitzhusen 2007; Djupe and Hunt 2009; Smith and Veldman 2020; Van Dyke 2005). As theologian Richard Young qualifies, while "the Church stands in need of an ecological reformation, the Christian Scriptures are not responsible for the ecological crisis" (Young 1994, 23). From a biblical and theological standpoint, Christianity is profoundly non-anthropocentric (for that matter, it is also non-eco/biocentric), though "actually occurring" Christian religion has often manifested as functionally anthropocentric in many contexts: "Western

Christianity may indeed be the most anthropocentric religion the world has ever seen, as White claims, but only because Western culture, the offspring of the Enlightenment, is so anthropocentric" (Simkins 2014, 399).

Theocentrism and the Bible

The arc of scripture from Genesis 1 through Revelation 22 (i.e., from the account of God creating the world to the description of God's renewed creation) is defined from beginning to end by God's engagement with all of creation, not just with humans:

> When we [open] the Bible and look especially for God's relationship to other creatures and the creation, we find a God who creates other creatures and the creation (Gen 1-2), who declares them good (Gen 1:31), who feeds and sustains them (Ps 104; Mt 6:26), who makes covenant with them (Gen 9), who protects them in his laws (Lev 25; Deut 6:14), who hears their groaning (Rom 8:28), and who promises their ultimate liberation from bondage" (Gushee 2010, 264-265).

Passages such as Job 38-40, where God confronts Job with the magnificent scale and diversity of creation, serve to remind humans of our humble place before the Creator and ruler of all: "This is a far from anthropocentric vision of the cosmos.... This is a universe that is what it is quite independently of us. The effect on Job must be to decentre him away from his preoccupation with his own case" (Bauckham 2010, 45). Psalm 104 conveys a similar message in the form of creational praise to God:

> After instancing many species individually, stressing their diversity, the psalm goes on to bring them all together, humans and other animals alike, in their common dependence on the Creator (vv 27-30). What gives wholeness to the psalm's reading of the world is not human mastery over it or the value humans set on it, not (in contemporary terms) globalization, but the value of all created things for God. This is a theocentric, not an anthropocentric world" (Bauckham 2010, 71).

A more thorough analysis would unpack numerous additional passages, including the creation accounts in Genesis 1-2, the first recorded covenant with God in Genesis 9 (made not just with people but explicitly with all life on earth), and God's granting of ethical and legal considerations through the law and prophets to all creation (humans, other animals, and even the land itself).

We see God's everlasting covenant with all life (from Genesis 9) persist through the New Testament, where the Apostle Paul teaches that our eternal destiny remains intertwined with the rest of creation. Not only is the rest of creation groaning with us, but God wills it this way in order that the rest of creation will also be liberated with us from sin and death (Romans 8). As Colossians 1:15-20 emphasizes, this comprehensive reconciliation and restoration is centered in the divine person and work of Christ and "offers a holistic vision of the whole creation integrated in Jesus Christ. It is he who 'holds it all together'. He is intimately related to the whole, and the meaning of the whole creation consists in having Jesus Christ as its source, its focus, its healer and its goal" (Bauckham 2010, 157).

The theocentric vision consistently rendered in the Bible is the restoration of shalom (i.e., harmony/right relationships and mutual flourishing) to all creation, as it was in the beginning (see Genesis 1-2) and will be at the end (see Revelation 22) (Woodley 2012). This vision is grounded in the love of God who is love (1 John 4). Since God's very nature is love, it follows that love is also foundational to reality in this world that we share with God's other creatures (Young 1994, 90). As image-bearers of God, we are called to pattern ourselves after God in showing sacrificial love and concern for all creation: "The Christian concept of love is epitomized by God's giving His Son for the sins of humanity (Rom. 5:8). This selfless giving of oneself for the sake of others is the core of Christian ethical teaching, as is based on the character of God (1 John 4:7-21). The object of our love is not only God and fellow humans, but everything God loves, that is, His entire creation" (Young 1994, 212). Thus, a worldview centered on God is defined by selfless love, which should direct how we live, create, and relate at every level, whether individually, collectively, or structurally/systemically (Lowe and Vena 2019).

Furthermore, based on a biblical understanding of the Trinity, Christian theocentrism does not envision a single divine authority per se, but a God who is, in essence, the divine Community-of-Love. Father, Son and Holy Spirit are one in love, interrelated as the perfect community. Created in the image of God, then, human beings are essentially beings-in-relation. They are created by Community and for community. Full human flourishing takes place when people relate lovingly to the rest of the community of creation, of which we are a distinctive member, with particular responsibilities.

From a biblical perspective, it is only when we align ourselves with a theocentric worldview—with God and God's will at the center—that we can also pursue right relationships with each other and the rest of creation: "The Bible is a religion for people, directing them how to live together in justice and love, under God and within a nature with which they have an entwined destiny" (Rolston 1996, 24). In that sense, theocentrism

integrates anthropocentric and eco/biocentric concerns without making either the ultimate end. In other words, it acknowledges the worth of both humans and nonhuman species, and recognizes the importance of their interests, but does not elevate them to the level of idolatry. With God as the ultimate end, theocentrism "overrides chauvinistic human speciesism" and "is simultaneously biocentric and anthropocentric because it is so deeply theocentric" (Gushee 2010, 264).

Theocentrism thus serves as a prophetic challenge to the work of relief and development, which all too often skews toward viewing and framing goals and outcomes in anthropocentric terms:

> The biblical worldview offers a challenge to the anthropocentrism that has infected Western Christianity since the Enlightenment by dethroning humans from their artificial (human-made) precipice overlooking the natural world. Humans are part and parcel of the creation, along with the rest of the natural world, and their role within the creation cannot separate them from the creation (Simkins 2014, 411).

Implications of Theocentrism

As a comprehensive and orientating worldview, theocentrism offers at least seven interrelated implications for reconciling conservation and development (Table 3).

Table 3: Seven implications of Theocentrism

IMPLICATION:	SUMMARY DESCRIPTION:
Fosters humility	Places God—and God's mission and vision—at the center of reality and purpose; submits to God's will/governance and accepts the finitude and limitations of humans and all other aspects of creation.
Reassesses value	Understands that all creation—human and non-human—has intrinsic value that comes from God, apart from any instrumental value it may also have for any individual species, group, or individual.
Affirms human responsibility	Acknowledges the unique capacity and role humans are created and called to serve in, as image-bearers of God, to represent and join in manifesting God's desires for this world.
Embraces interrelationship	Sees all Creation as intricately interconnected and interdependent with itself and its Creator (sharing the same Creator also implies a level of kinship between humans and other species); these relationships have been fractured by sin but are being reconciled through the redeeming love and mission of God.
Recognizes God's involvement	Appreciates that God remains deeply engaged with creation, including in ways we do not comprehend and that are separate from us. This frees us from trying to save the world on our own, and instead empowers us to offer up our efforts as worship and witness.
Reframes conflict	Understands that God created the world to flourish in a state of shalom and that there ultimately *should not* be any inherent conflict between advancing God's will and advancing the true interests of creation (human and non-human).
Confronts idolatry	Challenges all worldviews or ideologies that attempt to center humans, any other species, or any aspect of creation above or in competition with the Creator.

First, by acknowledging God at the center of reality and seeking to decenter ourselves, theocentrism helps us better recognize and come to terms with all that we cannot yet fully understand or reconcile, and thus "both expresses and nourishes a religious moral attitude of humility" (Gustafson 1994, 74). Cultivating a posture of humility toward our place in the world is precisely what Lynn White Jr. prescribes in order to address the arrogant anthropocentric attitude of domination that drives the ecological crisis (White 1967). As Peter Harris notes from his work founding the international Christian conservation organization, A Rocha: "If we recognize that the world exists primarily for the Creator, and only secondarily to satisfy our material needs, we have a basis for that humility, and our active

relationship with the Creator provides the context for the Christian field worker" (Harris 2000, 119).

Second, theocentrism recognizes and affirms the inherent worth and rights of all creation, thus challenging the "modern assumption that nature must serve human interests" (Jenkins 2013, 80). The ultimate value of all creation--human and non-human--comes from the same source: "[In] a theocentric perspective all creational value is derived value, in that God the Creator is the one who authoritatively declares and demonstrates the value of all things that he has made" (Gushee 2010, 263). In other words, the rest of creation has intrinsic value above and beyond the instrumental value that humans might ascribe to parts of it at any given time or place: "[E]arth's abundance is not just 'raw materials' for industry. It is not just 'natural resources' or 'real estate.' The fruit of the earth is not just 'commodities.' It is God's good, morally valued creation—a partner in a covenant pact with God that still holds" (Snyder 2014, sec 5). Thus, like humans, all other lifeforms are also moral subjects (i.e., they can be treated rightly and wrongly) and possess their own God-ordained interests—that we are called to recognize and respect—independently of our own.

Third, while theocentrism affirms that all creation has God-derived intrinsic value, it also embraces the unique role and responsibility that humans are entrusted with on behalf of God (as a function of the imago Dei), which has been described alternately as being stewards, vice-regents, ambassadors, and priests. This diverges markedly from the biospheric/species egalitarianism common across biocentrism and ecocentrism, which views humans as no more than plain members of the community of creation along with all other species (Leopold 1949; Taylor 1986). Thus, theocentrism provides the foundation for asserting that, while we are moral subjects along with the rest of creation, we are also moral agents given responsibilities by God within creation. This distinction is for the purpose of loving service, however, and not domination (at least not in the fallen and anthropocentric terms this word is often twisted into representing): "Theocentrism preserves the Christian insight into the nature of humankind as the image of God, without giving humanity license to dominate or despoil the earth... Theocentrism condemns the tragic distortions of anthropocentrism, while affirming mankind's [sic] priestly role at the center of creation" (Rossi 1988, 13). Old Testament theologian Daniel Block unpacks this servant role further using the example of Noah in Genesis 6-9:

> As the image of God, Noah was deputized to represent the cosmos in God's covenant confirmation process, but throughout he functions primarily in the interests of the creatures, rather than having them serve him. As the fountainhead of humanity, Noah's actions are paradigmatic for all his successors who encounter threats to the environment. Based on very specific divine instructions, Noah built the ark to preserve animal life in the plurality of species and its rich biological diversity (Block 2010, 132).

Thus, bearing the image of God is a functional distinction that provides both the divine authority and unique capacity to govern the world with care. But it is clear from scripture that humans are to represent God's interests here—not our own—and to govern the world in line with the kingdom of God and the humble model of sacrificial servanthood embodied by Christ.

Fourth, theocentrism affirms a central tenet of ecology: everything is integrally connected and interdependent. We cannot separate ourselves from the rest of creation, nor can we separate the rest of creation from us: "Biblically, it is wrong either to elevate the environment over human beings or to stress human uniqueness to the point that we miss our utter earth-dependence. The biblical way is not to place one over the other but to see the interdependence built into God's order. Here we think ecologically if we think biblically..." (Synder 2014, sec 5). Importantly, what makes this view theocentric (and not just ecocentric) is that these relationships do not exist and persist on their own but flow from and are centered in God: "[E]verything is naturally connected to everything else because God is All in all and everything is connected to God, Who is the first principle of theocentrism" (Rossi 1988, 14). Of course, a natural consequence of such an interconnected community of creation is that, for better and for worse, we impact those around us (whether human or non-human) and they impact us:

> What we have in common with the lilies of the field is not just that we are creatures of God, but that we are fellow-members of the community of God's creation, sharing the same Earth, affected by the processes of the Earth, affecting the processes that affect each other, with common interests at least in life and flourishing, with the common end of glorifying the Creator and interdependent in the ways we do exactly that (Bauckham 2010, 88).

Fifth, and building on the above, theocentrism prompts us to recognize that God relates to and is involved in the rest of creation quite apart from human mediation. While Biblical theocentrism lays out a meaningful role for humans as divinely commissioned agents of God, it affirms that God also maintains a direct relationship with and is actively engaged in the world independently of us: "[S]o long as we avoid the anthropocentric fantasy that God relates to the rest of

creation only via humans, it is easy to realize that there must be a great deal about God's relationship to other creatures that we shall never know – at least, this side of the end of history" (Bauckham 2010, 147). This realization is a source of encouragement for all who are deeply concerned about the bleak state of the world and our woefully limited ability to right the wrongs and fix the messes our species is making. While humans are in no way off the hook, a theocentric approach puts humans in our place and rejoices that the good of the world ultimately does not rest solely on our shoulders:

> In Genesis 9, we witness an agreement with God and his creation that is made specifically with people. It continues, however, to establish a direct relationship between God and his creation without reference to us... Later in the Old Testament we read that Job was asked, "Where were you when I laid the earth's foundation?" We are at times a spectator in the vital relationship between God and his creation, and conscious of that, our work becomes worship. In giving others the opportunity to become aware of that dimension, our work goes on beyond worship to become witness (Harris 2000, 119).

Such a perspective empowers us to be faithful in the present without being obsessed with immediate results or trapped in desperation and despair. While our efforts do indeed seek the well-being of both people and the planet, they are ultimately offered as worship to the one holding all things together (Colossians 1:17).

Sixth, theocentrism challenges us to reframe and renegotiate conflicts between the well-being of humans and the rest of creation from God's perspective. Unlike anthropocentrism, theocentrism holds that perceived human interests do not ultimately determine what is right and good in a given situation (Gustafson 1994). The priority is to align with God's will and purposes, which encompass the good of all creation:

> Human needs must be redefined beyond the utility satisfaction of simply self-interested desires. They must be seen instead in the light of God's intentions, intentions that include respect for the nature He created [not just] for our benefit. And human actions must be oriented to the good of God's creation. At the same time that they honor the good that is God's creation of man [sic], they must honor the good that is God's creation of nature. A theocentric view of man [sic] and nature thus subtends a morality of charity and conservation unlike those of the anthropocentric and ecocentric views of man [sic] and nature (Hoffman and Sandelands 2005, 155).

From a biblical perspective, however, there should ultimately be no conflict between God's will and what is in the actual interests of people (or the rest of creation, for that matter):

> If it is true, as just suggested, that honoring God's command advances human well-being, then there should not be any tension between a theocentric and anthropocentric approach. As we honor our Creator God and obey God's commands, we act in ways that advance human well-being... This works out, however, only if human well-being is properly understood (Gushee 2010, 249-250).

Of course, the tragic reality of sinful humanity in a fallen world is that tension remains here, often because of narrow or misguided understandings of what human well-being entails. While theocentrism does not necessarily provide simple answers to these complex challenges, it does reframe the conflict more critically and holistically, and primes our commitment to strive for win-win solutions that promote the well-being of both people and the rest of creation (Lowe and Vena 2019). As Hoffman and Sandelands (2005) note:

> Whereas anthropocentric and ecocentric environmentalisms invite controversy between these two objectives, theocentric environmentalism forswears their dichotomy and thereby controversy between them. It suggests, rather, that where the two objectives cannot be met at the same time, it is because they are misunderstood as being opposed to one another. The challenge thus is determining how and when this misunderstanding may arise (153-154).

Tragic conflicts in the present are not the way God designed things to be but instead are properly understood as a consequence of sin and brokenness. The Bible testifies that God created, and remains determined to restore, a world defined by shalom, where humans and the rest of creation are reconciled to once again flourish in harmony with each other and God (Woodley 2012).

Seventh, both theologically and practically speaking, to embrace a worldview other than theocentrism is to embrace idolatry: "Any position short of a full acceptance of theocentrism will not represent the completely biblical, patristic Christian worldview" (Rossi 1985, 14). On one hand, by centering humans above all other concerns, anthropocentrism idolizes humanity. This is precisely how humans went wrong in the Garden of Eden—instead of submitting to God, they rebelled and sought to elevate themselves to rival God (Genesis 3). It is also how we have arrived in the Anthropocene, which is the

inevitable outcome of an anthropocentric worldview. On the other hand, by centering the interests of non-human creatures and ecosystems (at least as best we perceive them), biocentrism and ecocentrism tend to idealize and idolize (wild) non-human nature and are thus also problematic, if at least less self-aggrandizing. In the Western church, in particular, there is a great need to repent for our anthropocentric biases and to pursue biblical discipleship and witness that centers on God and orients ourselves, our species, and the rest of creation in right relationship around the Creator:

> It is not too much to say that to the extent Christians have failed to acknowledge God's sacred relationship to other creatures and the creation, we have failed God, we have sinned against him and against other creatures and the creation we share with them. Our sins demand repentance, which includes both grief over sin and new commitment to a different way of relating. We must learn to perceive our moral obligations as God's people to those other creatures loved and valued by God, and to the ecosystems that God prepared and still employs to sustain all our lives (Gushee 2010, 265).

Application: Putting Theocentrism into Practice

The purpose of this paper has been to propose theocentrism as a biblically normative and conceptually effective approach for reconciling conservation and development, which is an increasingly critical challenge in the world today. A growing number of faith-based organizations—including relief and development agencies, environmental groups, and even traditional mission societies—are engaging more holistically around interconnected social, ecological, and spiritual needs, and there is much that can be learned from these ongoing efforts (Table 4). Toward this end, we offer four concrete recommendations for how the relief and development community, in particular, can implement a more theocentric approach at the organizational and programmatic level.

First, in an increasingly complex and interconnected world, it is important for organizations to take a rigorously holistic approach to understanding problems and crafting solutions. Systems thinking, which assumes complex human-environment interactions, should be normative along with connecting the dots between how socioeconomic and ecological (and, for faith-based organizations, also spiritual) issues and spheres interact and influence each other in specific places and contexts (Liu et al. 2007). These issues are inextricably entangled and, as Toly (2019) puts it, "Managing them well does not mean disentangling them, but wisely addressing their entanglement" (2). For example, Plant with Purpose partners with rural households and communities around a comprehensive and integrated agenda that includes reforestation projects, sustainable agriculture practices, savings and loans groups, and discipleship programs. This holistic model has proven highly fruitful through the years because it appropriately recognizes that the challenges facing households and communities today are just as much about economic well-being as they are about ecological and spiritual health, which are all ultimately tied together. Another example is World Hope International, which explicitly connects all of their work to the Sustainable Development Goals (SDGs). While the SDGs have their limitations and are not theocentric *per se*, they do provide a useful and widely recognized framework for identifying connections and evaluating how any given project fits into the overarching goal of restoring creational flourishing.

Second, the most feasible way for many organizations actually to implement such a holistic approach will be through innovative collaborations with groups that have complementary areas of expertise. Environmental conservation and international development are both specialized fields that require considerable understanding, skill, and networks in order to be effective. Relief and development agencies should be wary of assuming that they have what it takes to do conservation well on their own (and vice versa for conservation organizations). The literature is replete with examples of integrated conservation and development projects that were well-intentioned but failed due to deficient conception and implementation (*e.g.*, Aldashev and Vallino 2019; Winkler 2011). One way for groups to increase the likelihood of success here is through strategic partnerships that complement gaps in expertise and relationships. A good example comes from the shores of Lake Tanganyika, a global biodiversity hotspot in East Africa. The Tuungane Project, a secular organization funded in part by The Nature Conservancy, is working to conserve Lake Tanganyika by improving fisheries co-management and protecting aquatic habitats (Lowe et al. 2019). At the same time, Tuungane recognizes the importance of improving food security and reducing soil erosion and sedimentation through addressing small-scale farming practices in the communities where they work. To do this, they partnered with ECHO (a Christian organization promoting sustainable agricultural development with a regional center in Tanzania) on a "Terrestrial Training Programme"

Table 4: Select examples of Christian NGOs working to integrate conservation and development

A Rocha: an international Christian conservation organization that seeks to show God's love for all creation by conserving biodiversity while improving the well-being of local communities. Examples include remediating an urban dump into a biodiverse community park in England, and developing ecotourism projects in Kenya that generate revenue from protecting forests instead of cutting them down. *arocha.org*
CAMA Services: a ministry of the Christian and Missionary Alliance; partnered with church leaders in Kosovo to start a plastics recycling business with the expressed vision of generating income while caring for creation by reducing trash in the community. They also support an aquaculture project in a part of Mali where farmers are struggling and the Niger River is being overfished. *camaservices.org*
ECHO: teaches, innovates, and offers a wealth of resources on sustainable farming practices for small-scale farmers around the world. On the Tanzanian shoreline of Lake Tanganyika, they partnered with the Tuungane Project on an integrated conservation and development initiative focused on improving livelihoods and farming practices while protecting important fish habitat in this global biodiversity hotspot. *echonet.org*
Plant with Purpose: models a rigorously holistic approach that seeks to address environmental degradation and rural poverty together through ecological restoration, sustainable agriculture, microfinance, and spiritual discipleship. In Haiti alone, they partner with almost 10,000 families across 133 communities to improve resilience, promote soil conservation, and plant trees—nearly 4 million to date. *plantwithpurpose.org*
Tearfund: has been advocating for climate action since the early 1990s and also works to tackle waste and promote a circular economy. Their Rubbish Campaign (launched in 2019) focuses on urging major corporations to reduce their plastic waste in particular. In Malawi, they partner with Eagles Relief and Development Programme to integrate reforestation, conservation agriculture, and climate adaptation throughout their work with villages across the country. *tearfund.org*
World Hope: explicitly ties its work around the world to the Sustainable Development Goals (SDGs), which includes climate action among other socio-ecological concerns. In Cambodia, they are the recipient of a grant from the Disney Conservation Fund for Jahoo Gibbon Camp, an ecotourism and research center that empowers the Indigenous Bunong people to protect the endangered yellow-cheeked gibbon and its habitat. *worldhope.org*
World Vision International: includes climate change as an area of focus and recognizes the connections between a warming planet and increased poverty and vulnerability. As a result, among other initiatives, they have invested in reforestation projects and have helped restore millions of acres of degraded farmland across sub-Saharan Africa and parts of Asia. *wvi.org*

for village farm plots (ECHO 2015). This successful collaboration not only highlights the value of partnerships between conservation-focused and development-focused organizations but also affirms that faith-based and secular groups can indeed find fruitful ways to work together around shared concerns. A helpful framework for thinking through such partnerships in a pluralistic world is what religion scholar Willis Jenkins terms "theocentric pragmatism," which combines theocentrism with the grow-as-you-go, problem-solving approach of pragmatism (Jenkins 2013). Theocentric pragmatism bypasses cosmological approaches that require all parties to share a single underlying worldview in order to collaborate. Instead, groups begin by bringing the best of their respective traditions/resources to bear in engaging around a shared problem with other stakeholders. In the process of working on the problem together, mutual learning and growing takes place, new possibilities develop, and groups are able to identify common ground and build the trust needed in order to innovate and pursue greater steps (Jenkins 2013). Theocentrism helps foster the humility needed to learn from others and engage in non-traditional and interdisciplinary partnerships and approaches to tackling entrenched problems, recognizing there may be limitations to our current strategies and abilities.

A third aspect of practicing theocentrism is the importance of balancing the tension between the biblical vision of shalom with honest expectations of present realities. This involves naming and accepting the tragic reality that fully and finally reconciling conservation and development remains beyond our reach, though it must continue to be our aim. While considerable progress is possible (and should be gratefully celebrated whenever achieved), securing the

complete flourishing of all creation is an ongoing struggle to do the best we can, given the circumstances we face. No matter how hard we try, we will continue to encounter intractable conflicts that force us to choose between competing non-trivial goods or goals, all of which are simultaneously unachievable (Toly 2019). In other words, we face wicked conflicts that have no fully self-justifying solutions. As moral agents and image-bearers of God, however, we still have to make the most loving choices we can, even though it means ending up with dirt and blood on our hands (at least figuratively) from the unavoidable tradeoffs involved. From a Christian theocentric perspective, "Justification by the work of Jesus Christ, alone, not only frees the Christian *from* the demands of self-justification but also frees them *for* a pattern of vicarious representative action on behalf of others, frees them to be there for others" (Toly 2019, 94). In other words, while lamenting what is lost and hoping in the resurrection to come, Christians are not to be paralyzed in the present by so-called "wicked problems" that defy clean solutions. Instead, we are empowered through the grace and example of Christ to sacrificially bear the costs associated with tragic tradeoffs so that others are better able to flourish: "A readiness to dirty our hands for others—to bear costs for neighbor and creation—symbolizes... what it means to be like God at the dawn of a new, but enduringly tragic, geologic era" (Toly 2019, 117).

Fourth, pursuing a theocentric approach is also an opportunity to bear prophetic witness—both across broader society and within the church—against the pervasive and destructive cult of anthropocentrism. In reality, theocentrism runs counter to the ingrained operational worldview of many Christian spaces, which may pay lip service to the biblical vision of Jesus as Lord, but function predominately as if humans were the center of the universe. This tendency toward anthropocentrism runs particularly deep in Western/White Christianity and has been exported widely through its heavy emphasis on international missions and theological education (among other factors). In contrast, other, less individualistic and anthropocentric Christian traditions are often a rich source of theological insight and practical wisdom around theocentric conservation and development. These include Indigenous theological traditions (e.g., Woodley 2012) and the heavily Christian-influenced environmental justice movements in the U.S. and beyond (e.g., around Indigenous rights and deforestation in the Amazon region). Challenging the idolatry of anthropocentrism, which is a core and cross-cutting issue of Christian discipleship, will often be costly and unpopular. Relief and development organizations rely on donations from individuals and institutions who tend to be much more motivated by anthropocentric appeals and arguments. For example, it is typically easier to raise support for child sponsorships than for ecosystem restoration. Still, biblical ethics and Anthropocene realities agree—we have to find a way to do both. Tearfund is an example of an organization providing leadership here through various public advocacy campaigns over the years and by supporting groundbreaking initiatives such as Young Evangelicals for Climate Action and the Lausanne/World Evangelical Alliance Creation Care Network. In 2013, they also teamed up with the Evangelical Environmental Network to bring a group of key Christian leaders in the United States to visit a partner organization in Malawi, the Eagles Relief and Development Programme, to learn why and how they are integrating conservation agriculture and climate resiliency into their work with rural communities.

Conclusion:

By providing courageous and persistent leadership in reconciling conservation and development, relief and development agencies have the opportunity to make significant and biblically faithful contributions toward reframing our deficient understanding of Christian mission and reorienting the church toward a more theocentric approach in an era defined by anthropogenic environmental change. They also have an opportunity to innovate and model conservation and development approaches that honor the God-given value of all creation and transcend the false dichotomies and shallow reconciliation attempts of many global solutions.

As Van Dyke and Lamb (2020a) state, "we may yet give this present age a good name – not because we tried to save nature from people, nor that we merely labored to save nature for people, but that we worked to save nature through people and with people, that our efforts found dignity in this purpose, that human life and nature's life might find and know life together" (122). Win-win solutions that conserve biodiversity and promote human well-being can be challenging to bring to fruition, and require holistic and honest accounting of benefits, losses, costs, and tradeoffs so that they can be openly discussed and negotiated (McShane et al. 2011).

If Christians are to faithfully participate in the biblical mission to restore all creation to mutual flourishing, we must reject exclusionary approaches to conservation and development and refuse to settle for half-hearted attempts at their reconciliation. Instead, we are called to unreservedly embrace God's vision of shalom and joyfully accept our responsibilities as members of the community of creation and ambassadors of the Creator, Sustainer, and Reconciler of all.

References

Adams, William M., Ros Aveling, Dan Brockington, Barney Dickson, Jo Elliott, Jon Hutton, Dilys Roe, Bhaskar Vira, and William Wolmer. 2004. "Biodiversity Conservation and the Eradication of Poverty." *Science* 306 (5699): 1146–49. doi:10.1126/science.1097920.

Aldashev, Gani, and Elena Vallino. 2019. "The Dilemma of NGOs and Participatory Conservation." *World Development* 123: 104615. https://doi.org/10.1016/j.worlddev.2019.104615

Anderson, Christopher B., Cristiana S. Seixas, Olga Barbosa, M. Siobhan Fennessy, Julio Díaz-José, and Bernal Herrera-F. 2019. "Determining Nature's Contributions to Achieve the Sustainable Development Goals." *Sustainability Science* 14 (2): 543–47. doi:10.1007/s11625-018-0643-5.

Bauckham, Richard. 2010. *Bible and Ecology: Rediscovering the Community of Creation*. Waco, TX: Baylor University Press.

Bhagwat, Shonil A., Nigel Dudley, and Stuart R. Harrop. 2011. "Religious Following in Biodiversity Hotspots: Challenges and Opportunities for Conservation and Development." *Conservation Letters* 4 (3): 234–40. doi:10.1111/j.1755-263X.2011.00169.x.

Block, Daniel. 2010. "To Serve and To Keep: Toward a Biblical Understanding of Humanity's Responsibility in the Face of the Biodiversity Crisis." In *Keeping God's Earth: The Global Environment in Biblical Perspective*, edited by Noah Toly and Daniel Block, 116-142. Downers Grove, IL: InterVarsity Press.

Blom, Benjamin, Terry Sunderland, and Daniel Murdiyarso. 2010. "Getting REDD to Work Locally: Lessons Learned from Integrated Conservation and Development Projects." *Environmental Science & Policy* 13 (2): 164–72. doi:10.1016/j.envsci.2010.01.002.

Büscher, Bram, and Robert Fletcher. 2019. "Towards Convivial Conservation." *Conservation and Society* 17 (3): 283. doi:10.4103/cs.cs_19_75.

Carruthers, David. 2001. "From Opposition To Orthodoxy: The Remaking Of Sustainable Development." *Journal of Third World Studies* 18 (2): 93–112. doi:10.2307/45193956

Castree, Noel. 2008. "Neoliberalising Nature: Processes, Effects, and Evaluations." *Environment and Planning A: Economy and Space* 40 (1): 153–73. doi:10.1068/a39100.

Crutzen, Paul J. 2002. "Geology of Mankind--The Anthropocene." *Nature* 415 (6867): 23–23. doi:10.1038/415023a.

Deneulin, Séverine, and Augusto Zampini-Davies. 2016. "How the Sustainable Development Goals (SDGs) can engage with religion." *Religion and the public Sphere* (19 Oct 2016). Available from: http://eprints.lse.ac.uk/76459/

Deneulin, Séverine, and Carole Rakodi. 2011. "Revisiting Religion: Development Studies Thirty Years On." *World Development* 39 (1): 45-54.

Dhyani, Shalini, Debbie Bartlett, Rakesh Kadaverugu, Rajarshi Dasgupta, Paras Pujari, and Parikshit Verma. 2020. "Integrated Climate Sensitive Restoration Framework for Transformative Changes to Sustainable Land Restoration." *Restoration Ecology* n/a (n/a). Accessed September 20. doi:10.1111/rec.13230.

Djupe, Paul A., and Patrick Kieran Hunt. 2009. "Beyond the Lynn White thesis: Congregational effects on environmental concern." *Journal for the Scientific Study of Religion* 48 (4): 670-686. https://doi.org/10.1111/j.1468-5906.2009.01472.x

Doherty, Tim S., Lucie M. Bland, Brett A. Bryan, Timothy Neale, Emily Nicholson, Euan G. Ritchie, and Don A. Driscoll. 2018. "Expanding the Role of Targets in Conservation Policy." *Trends in Ecology & Evolution* 33 (11): 809–12. doi:10.1016/j.tree.2018.08.014.

ECHO. 2015. *6th Follow-up/Final Report of the Tuungane Terrestrial Training Programme* (unpublished report), 22 June.

Escobar, Arturo. 1992. "Reflections on 'Development': Grassroots Approaches and Alternative Politics in the Third World." *Futures* 24 (5): 411–36. https://doi.org/10.1016/0016-3287(92)90014-7.Farley, Joshua, and Robert Costanza. 2010. "Payments for Ecosystem Services: From Local to Global." *Ecological Economics* 69 (11). Amsterdam: Elsevier: 2060–68. doi:10.1016/j.ecolecon.2010.06.010.

Foley, Jonathan A., Ruth DeFries, Gregory P. Asner, Carol Barford, Gordon Bonan, Stephen R. Carpenter, F. Stuart Chapin, et al. 2005. "Global Consequences of Land Use." *Science* 309 (5734): 570–74. doi:10.1126/science.1111772.

Foley, Jonathan A., Navin Ramankutty, Kate A. Brauman, Emily S. Cassidy, James S. Gerber, Matt Johnston, Nathaniel D. Mueller, et al. 2011. "Solutions for a Cultivated Planet." *Nature* 478 (7369): 337–42. doi:10.1038/nature10452.

Grove, Richard. 1995. *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600-1860*. Studies in Environment and History. Cambridge: Cambridge University Press. http://catdir.loc.gov/catdir/toc/cam026/93028654.html.

Gonzalez, Justo. 2015. *La Creación: la Niña de los Ojos de Dios*. Buenos Aires: Kairós.

Gushee, David. 2010. "Environmental Ethics: Bringing Creation Care Down to Earth." In *Keeping God's Earth: The Global Environment in Biblical Perspective*, edited by Noah Toly and Daniel Block, 245-266. Downers Grove, IL: InterVarsity Press.

Gustafson, James M. 1981. *Ethics from a Theocentric Perspective, I.* Chicago, IL: University of Chicago Press.

Gustafson, James M. 1994. *A Sense of the Divine: The Natural Environment from a Theocentric Perspective*. Cleveland, OH: The Pilgrim Press.

Harris, Peter. 2000. *Under the Bright Wings*. Vancouver, BC: Regent College Publishing.

Hitzhusen, Gregory E. 2007. "Judeo-Christian theology and the environment: moving beyond scepticism to new sources for environmental education in the United States." *Environmental Education Research* 13 (1): 55-74. https://doi.org/10.1080/13504620601122699

Hoffman, Andrew J., and Lloyd E. Sandelands. 2005. "Getting Right with Nature: Anthropocentrism, Ecocentrism, and Theocentrism." *Organization & Environment,* 18 (2): 141–162. https://doi.org/10.1177/1086026605276197

International Resource Panel (IRP). 2019. Land restoration for achieving the sustainable development goals: an international resource panel think piece. A think piece of the International Resource Panel, United Nations Environment Programme, Nairobi, Kenya. https://www.resourcepanel.org/reports/land-restoration-achieving-sustainable-development-goals.

Jack, B. Kelsey, Carolyn Kousky, and Katharine R. E. Sims. 2008. "Designing Payments for Ecosystem Services: Lessons from Previous Experience with Incentive-Based Mechanisms." *Proceedings of the National Academy of Sciences* 105 (28): 9465–70. doi:10.1073/pnas.0705503104.

Jenkins, Willis. 2013. *The Future of Ethics: Sustainability, Social Justice, and Religious Creativity*. Georgetown University Press.

Jenkins, Willis, Evan Berry, and Luke Beck Kreider. "Religion and climate change." *Annual review of environment and resources* 43 (2018): 85-108.

Kanagy, Conrad L., and Hart M. Nelsen. 1995. "Religion and Environmental Concern: Challenging the dominant assumptions." *Review of Religious Research*: 33-45. https://doi.org/10.2307/3512069

Kiss, A. 2004. "Is Community-Based Ecotourism a Good Use of Biodiversity Conservation Funds?" *Trends in Ecology & Evolution* 19 (5): 232–37. doi:10.1016/j.tree.2004.03.010

Liu, Jianguo, Thomas Dietz, Stephen R Carpenter, Marina Alberti, Carl Folke, Emilio Moran, Alice N Pell, et al. 2007. "Complexity of Coupled Human and Natural Systems." *Science* 317 (5844): 1513–16.

Leopold, Aldo. 1949. *A Sand County Almanac, and Sketches Here and There*. New York: Oxford Univ. Press.

Lewis, Simon L., and Mark A. Maslin. 2015. "Defining the Anthropocene." *Nature* 519 (7542): 171–80. doi:10.1038/nature14258.

Lowe, Benjamin S. 2019. "Ethics in the Anthropocene: Moral Responses to the Climate Crisis." *Journal of Agricultural and Environmental Ethics* 32 (3): 479–85. doi:10.1007/s10806-019-09786-z.

Lowe, Benjamin S., and Christopher Vena. 2019. "Integrating Creation Care with Relief and Development." In *Hands: Stories and Lessons of Holistic Development*, edited by CAMA Services, 61-71. Colorado Springs, CO: CAMA Services.

Lowe, Benjamin S., Susan K. Jacobson, Happiness Anold, Athanasio S. Mbonde, and Catherine M. O'Reilly. 2019. "Adapting to Change in Inland Fisheries:Analysis from Lake Tanganyika, East Africa." *Regional Environmental Change*, 19 (6): 1765-1776. https://doi.org/10.1007/s10113-019-01516-5

Marvier, Michelle, Peter Kareiva, and Robert Lalasz. 2019. *Conservation in the Anthropocene: Beyond solitude and fragility*. The Breakthrough Institute. Available at https://thebreakthrough.org/journal/issue-2/conservation-in-the-anthropocene. Accessed 20 Aug 2019.

McShane, Thomas O., Paul D. Hirsch, Tran Chi Trung, Alexander N. Songorwa, Ann Kinzig, Bruno Monteferri, David Mutekanga, et al. 2011. "Hard Choices: Making Tradeoffs between Biodiversity Conservation and Human Well-Being." *Biological Conservation* 144 (3): 966–72. doi:10.1016/j.biocon.2010.04.038.

Mikusiński, Grzegorz, Hugh P. Possingham, and Malgorzata Blicharska. 2014. "Biodiversity Priority Areas and Religions—a Global Analysis of Spatial Overlap." *Oryx*, 48 (1): 17-22. https://doi.org/10.1017/S0030605312000993

Moo, Douglas J., and Jonathan A. Moo. 2018. *Creation Care: A Biblical Theology of the Natural World*. Edited by Jonathan Lunde. Grand Rapids, Michigan: Zondervan Academic.

Newsham, Andrew, and Shonil Bhagwat. 2016. *Conservation and Development*. New York, NY: Routledge.

Norton, Bryan G. 2017. "Environmental Ethics and Weak Anthropocentrism." In *The Ethics of the Environment*, edited by R. Attfield, 333–50. London: Routledge. doi:10.4324/9781315239897-21.

O'Connor, Martin and Rosemary Arnoux. 1993. "Translators' introduction" In *In the Wake of Affluent Society: An Exploration of Post-Development*, by Serge Latouche. London: Zed Books.

Ortega-Álvarez, Rubén, and Rafael Calderón-Parra. 2020. "Linking Biological Monitoring and Wildlife Ecotourism: A Call for Development of Comprehensive Community-Based Projects in Search of Sustainability." *Environment, Development and Sustainability*, May. doi:10.1007/s10668-020-00761-7.

Ridder, Ben. 2007. "The Naturalness versus Wildness Debate: Ambiguity, Inconsistency, and Unattainable Objectivity." *Restoration Ecology* 15 (1): 8–12. doi:10.1111/j.1526-100X.2006.00184.x.

Rockström, Johan, Will Steffen, Kevin Noone, Åsa Persson, F. Stuart Chapin, Eric F. Lambin, Timothy M. Lenton, et al. 2009. "A Safe Operating Space for Humanity." *Nature* 461 (7263): 472–75. doi:10.1038/461472a.

Rolston III, Holmes. 1996. "The Bible and Ecology." *Interpretation* 50 (1): 16-26. https://doi.org/10.1177/002096439605000103

Rossi, Vincent R. 1988. "Theocentrism: The Cornerstone of Christian Ecology." *Epiphany: A Journal of Faith and Insight* 8: 8-13.

Sachs, Wolfgang. 2010. *The Development Dictionary: A Guide to Knowledge As Power,* 2nd ed. London: Zed Books.

Simkins, Ronald A. 2014. "The Bible and Anthropocentrism: Putting Humans in Their Place. *Dialectical Anthropology* 38, (4): 397-413. https://doi.org/10.1007/s10624-014-9348-z

Siipi, Helena. 2008. "Dimensions of Naturalness." *Ethics and the Environment* 13 (1). Indiana University Press: 71–103. https://doi.org/10.2979/ETE.2008.13.1.71

Slimbach, Richard. 2020. "Global Development in the Anthropocene," *Christian Relief, Development, and Advocacy* 1 (2): 70-82.

Smith, Amy Erica, and Robin Globus Veldman. 2020. "Evangelical Environmentalists? Evidence from Brazil." *Journal for the Scientific Study of Religion* 59 (2): 341-359. https://doi.org/10.1111/jssr.12656

Snyder, Howard. 2014 "Genesis 9: The Forgotten Covenant." *Ecology of Church and Kingdom* (blog). Seedbed (January 13). Retrieved from https://www.seedbed.com/genesis-9-the-forgotten-covenant/

Steffen, Will, Jacques Grinevald, Paul Crutzen, and John McNeill. 2011. "The Anthropocene: Conceptual and Historical Perspectives." *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* 369, (1938): 842-867. https://doi.org/10.1098/rsta.2010.0327.

Steffen W, Richardson K, Rockström J, Cornell S E, Fetzer I, Bennett E M, Biggs R, Carpenter S R, Vries W de, Wit C A de, Folke C, Gerten D, Heinke J, Mace G M, Persson L M, Ramanathan V, Reyers B and Sörlin S. 2015. "Planetary Boundaries: Guiding Human Development on a Changing Planet." *Science* 347 Online: http://science.sciencemag.org/content/347/6223/1259855

Stone, Christopher D. 2004. "Common but Differentiated Responsibilities in International Law." *The American Journal of International Law* 98 (2): 276–301. doi:10.2307/3176729.

Taylor, Paul W. 1986. *Respect for Nature: A Theory of Environmental Ethics*. Princeton, N.J.: Princeton University Press.

Tilman, David, Kenneth G. Cassman, Pamela A. Matson, Rosamond Naylor, and Stephen Polasky. 2002. "Agricultural Sustainability and Intensive Production Practices." *Nature* 418 (6898): 671–77. doi:10.1038/nature01014.

Toly, Noah J. 2019. *The Gardener's Dirty Hands: Environmental Politics and Christian Ethics*. New York, NY: Oxford University Press. https://doi.org/10.1093/oso/9780190249427.001.0001

Tomalin, Emma, ed. 2015. *The Routledge Handbook of Religions and Global Development*. Abingdon, Oxon: Routledge.

Tomalin, Emma, Jörg Haustein, and Shabaana Kidy. 2019. "Religion and the Sustainable Development Goals." *The Review of Faith & International Affairs* 17 (2): 102-118.

UNEP. 2020. "Faith Action on the UN Sustainable Development Goals." Policy and Programme Division, United Nations Environment Programme. Available from: http://hdl.handle.net/20.500.11822/33848.

Van Dyke, Fred. 2005. "Between Heaven and Earth: Evangelical Engagement in Conservation." *Conservation Biology* 19 (6): 1693-1696. https://doi.org/10.1111/j.1523-1739.2005.00311.x

Van Dyke, Fred, and Rachel L. Lamb. 2020a. "The Anthropocene: Conservation in a Human-Dominated Nature." In *Conservation Biology: Foundations, Concepts, Applications*, 81–124. Cham: Springer International Publishing. doi:10.1007/978-3-030-39534-6_3.

———. 2020b. "The Legal Foundations of Conservation Biology." In *Conservation Biology: Foundations, Concepts, Applications*, 489–530. Cham: Springer International Publishing. doi:10.1007/978-3-030-39534-6_12.

——. 2020c. "Biodiversity Conservation and Climate Change." In *Conservation Biology: Foundations, Concepts, Applications*, 125–70. Cham: Springer International Publishing. doi:10.1007/978-3-030-39534-6_4.

——. 2020d. "Conservation Economics and Sustainable Development." In *Conservation Biology: Foundations, Concepts, Applications*, edited by Fred Van Dyke and Rachel L. Lamb, 449–87. Cham: Springer International Publishing. doi:10.1007/978-3-030-39534-6_11.

van Velden, Julia L., Henry Travers, Boyson H.Z. Moyo, and Duan Biggs. 2020. "Using Scenarios to Understand Community-Based Interventions for Bushmeat Hunting and Consumption in African Savannas." *Biological Conservation* 248 (August): 108676. doi:10.1016/j.biocon.2020.108676.

Vitousek, Peter M., John D. Aber, Robert W. Howarth, Gene E. Likens, Pamela A. Matson, David W. Schindler, William H. Schlesinger, and David G. Tilman. 1997. "Human Alteration of the Global Nitrogen Cycle: Sources and Consequences." *Ecological Applications* 7 (3): 737–50. doi:10.1890/10510761(1997)007[0737:HAOTGN]2.0.CO;2.

Waltham, Nathan J., Michael Elliott, Shing Yip Lee, Catherine Lovelock, Carlos M. Duarte, Christina Buelow, Charles Simenstad et al. "UN Decade on Ecosystem Restoration 2021–2030—What Chance for Success in Restoring Coastal Ecosystems?" *Frontiers in Marine Science* 7 (2020): 71.

White Jr., Lynn. 1967. "The Historical Roots of Our Ecologic Crisis. *Science 155* (3767): 1203-1207. https://doi.org/10.1126/science.155.3767.1203

Wilkinson, Katharine K. 2012. *Between God and Green: How Evangelicals are Cultivating a Middle Ground on Climate Change*. Oxford: Oxford University Press.

Wilson, E.O. 2016a. *Half-Earth – Our Planet's Fight for Life*. New York: Norton.

Winkler, Ralph. 2011. "Why do ICDPs Fail?: The Relationship Between Agriculture, Hunting and Ecotourism in Wildlife Conservation." *Resource and Energy Economics* 33 (1): 55-78. https://doi.org/10.1016/j.reseneeco.2010.01.003

Woodley, Randy. 2012. *Shalom and the Community of Creation: An Indigenous Vision*. Grand Rapids, MI: Wm. B. Eerdmans Publishing.

Wright, Christopher J. H. 2010. *The Mission of God's People: A Biblical Theology of the Church's Mission.* Illustrated Edition. Grand Rapids, MI: Zondervan Academic.

Young, Richard A. 1994. *Healing the Earth: a Theocentric Perspective on Environmental Problems and Their Solutions*. Nashville, TN: Broadman & Holman Publishers.

Benjamin Lowe is a PhD Candidate, NSF Graduate Research Fellow, and Harvey Fellow studying tropical conservation and development at the University of Florida. His interdisciplinary research focuses on the human, religious, and ethical dimensions of global environmental change. www.benlowe.net.

Author email: ben.s.lowe@gmail.com

Rachel Lamb is a PhD Candidate in Geographical Sciences, Harvey Fellow, and University Flagship Fellow at the University of Maryland, College Park. Her recent work focuses on strategic reforestation to meet climate mitigation and other social and environmental goals.

Author email: rachel_lamb@icloud.com

Ruth Padilla DeBorst is a theologian, missiologist, educator, and storyteller. She serves with Resonate Global Mission, leading the *Comunidad de Estudios Teológicos Interdisciplinarios* (CETI), the International Fellowship for Mission as Transformation, and leadership development initiatives of the Christian Reformed Church. She has been involved in theological formation for integral mission in her native Latin America and beyond for several decades.

Author email: rpadilladeborst@gmail.com
