

## *“The role of Environmental and Spiritual Ethics in Galvanizing Nature Based Solutions”*

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### **Introduction**

We are currently facing unprecedented multiple crises of climate change, pollution, biodiversity loss, zoonotic diseases amongst many others. Unsustainable human activities continue to degrade vast areas of the planet and if left unchecked could result in widespread ecosystem collapse and further biodiversity loss. The climate crisis continues to be the greatest existential threat to humanity and will exacerbate challenges of poverty, food security, water supplies, natural disaster resilience and peace. This crisis transcends all barriers and will negatively impact everybody as despite drastic developments over time, all civilisations remain firmly rooted in nature and cannot afford to destroy it. We must act quickly to reverse this trend before the negative impacts on human beings, and the planet, become irreversible.

Many consider humanity to have entered the age of the Anthropocene, whereby the human race is the single most influential factor dictating the current and future state of planet earth. There are no quick technical fixes to solve the climate crisis and our overexploitation of natural resources. We cannot afford to be complacent and hope that science and technology alone will solve these pressing problems. Instead, transitioning to a more sustainable future requires the engagement of the full spectrum of society and the employment of innovative approaches that address climate change and protect the natural environment based on behavioural and environmentally ethical changes in production and consumption patterns. One of these approaches, and the focus of this paper, is that of Nature-Based Solutions (NBS), an emerging concept with great potential. This paper will outline what NBS are, how the UN is supporting these practices, how FBOs are already engaging with NBS and what can be done to scale up action. This will be framed in the context of environmental and spiritual ethics that will help galvanise momentum to adopt nature-based solutions.

### **What are Environmental and Spiritual Ethics?**

Environmental ethics can be described as a set of norms describing how humans should behave towards nature and its resources. These norms reflect a moral attitude concerning what is viewed as good/permissible or bad/sinful <sup>[1]</sup>. Given that the climate crisis is rooted in a complex web of economic, social and cultural factors, as well as belief systems, social attitudes and perceptions, it is worth considering how these ethics impact our ability to address it. The unsustainable socio-economic systems, and consumption and production patterns that dominate much of the world today, arguably reflect belief systems and social attitudes. To make global human activity more sustainable therefore requires an examination and potential return of the values, beliefs and ethics that drive human beings and their relationship with the natural environment.

For many people, these values and ethics will be derived from or inspired largely by their particular faith. There exists a multitude of different spiritual traditions and religions throughout the world, varying in size from a few hundred adherents to many millions, reflecting the incredibly diverse cultures of the world. Overall, roughly 85% of the global population is

affiliated with a religion or faith, with spiritual beliefs influencing people’s worldviews and decisions <sup>[2]</sup>. Despite the great diversity of religions and beliefs, virtually all share a common ethic based on harmony with nature and an obligation to preserve it from destruction. All faith beliefs explore the relationship between man and nature and whilst these perspectives vary, each acknowledges that environmental destruction will have negative impacts. However, most religions arose at a time when people were much more intimately connected to the natural world, gaining their livelihoods directly from it. With technological progress, the impacts of globalisation, ever-growing urbanisation and increasing mechanisation of agriculture and food production, people today, particularly in mega and big cities, are more detached from nature than ever before. Therefore, there often exists a disconnect between what is contained within religious texts and teachings, and the current practices of the adherents of those religions <sup>[1]</sup>.

Therefore, in this time of unprecedented global environmental degradation, a new environmental ethic based on universally shared values is required, one that places a greater value on nature and connects to spiritual beliefs. This duty of care must be expanded to all places and not only address today’s pressing challenges, but factor in future generations that are to come so they do not inherit a severely damaged planet. This means re-evaluating the irrationality of valuing economic growth and material wealth over the health of the natural ecosystems, upon which all life relies. This is where religious teachings can play an important role in helping people rediscover old ties with nature still dormant in the collective human conscience and found in scripture. A collective environmental ethic does not mean homogenising the diverse perspectives religions offer. Rather it entails embracing diversity and creating a common notion of a moral duty to protect the environment that can serve to bridge religious divides whilst incorporating the expertise, knowledge and practices that different faiths provide. The ultimate aim should be that humans learn to live in harmony with nature and with one another. The destruction of nature is a catalyst for most issues facing the world, and there is an intricate linkage between a healthy environment, peace, prosperity and development <sup>[1]</sup>. Therefore, all faiths should acknowledge the universal threat posed by the environmental crisis and collectively resolve to address it. As shall be discussed and demonstrated, nature-based solutions are one area where faith actors can draw on ethical traditions and spiritual guidance. Combining these with contemporary scientific knowledge and best practice will serve to make faith contributions even more effective.

The most common perspective is that of stewardship in Abrahamic religions, or interdependence in Buddhism and Hinduism. As advocated by Pope Francis in his encyclical *Laudato Si, On Care for Our Common Home*, this position holds that God gave earth to man to care for, and that destruction of the natural environment is a destruction of God’s own creation. The *Laudato Si* explains the linkages between injustice, poverty, exclusion and environmental degradation and is highly critical of excessive consumerism and materialism. This grants an intrinsic value to nature, but still acknowledges that humans have a special and unique responsibility in protecting **all** creation as the dominant species. As we enter the dawn of the Anthropocene, this responsibility is more significant than ever and believers are compelled to consider their role as environmental stewards <sup>[3]</sup>. Our religions, or secular moral philosophies can guide us to make more responsible choices regarding the environment.

## **The UN and Environmental Ethics**

The call for the consideration of environmental ethics and connection to spiritual beliefs is not new. Several global conferences, seminars and publications have addressed different elements

over the past thirty years. In this section, a list of where the UN and in particular UNEP, has contributed to the dialogue is mentioned.

The World Charter for Nature, 1982, emphasised that "Every form of life is unique, warranting respect regardless of its worth to man, and to accord other organisms such recognition, man must be guided by a moral code of action" <sup>[4]</sup>.

The UNEP Seoul Declaration on Environmental Ethics was adopted in 1997. The declaration proposed to develop a new value system: where 'human greed and excessive materialism' are replaced by 'an ethical paradigm' <sup>[5]</sup>.

The 1998 General Assembly (GA) resolution 53/22, proclaimed 2001 as the UN Year of Dialogue among Civilizations. The resolution called on governments and the UN to plan and implement cultural, educational and social programmes to promote the concept of dialogue among civilizations, including through conferences and seminars and disseminating information <sup>[6]</sup> (UN, 1998).

The 2000 Millennium Declaration included respect for nature among the six fundamental values essential to international relations in the twenty-first century <sup>[7]</sup>.

In 2000, UNEP, The Parliament of World's Religions, Yale Forum on Religion and Ecology and other partners published "Earth and Faith: A Book of Reflection for Action" <sup>[8]</sup> introduced these issues and made linkages between spiritual beliefs, environmental issues and the moral responsibility towards them. This effort, twenty years later, has resulted in a newer version titled "Faith for Earth: A Call for Action" <sup>[9]</sup> that is being launched during the Faith for Nature conference.

There were several international conferences on Dialogue among Civilizations, including: Vilnius, Lithuania (2001) <sup>[10]</sup>; Tokyo and Kyoto, (2001) <sup>[11]</sup>; and Tehran (June 2001) <sup>[12]</sup>, which adopted the Tehran Declaration on Environment, Religion and Culture. The latter, promoted environmental education and religion and called for environmentally responsible behaviour.

Furthermore, the International Conference on the "Dialogue among Civilizations, Cultures and Peoples" in 2005 and the subsequent Forum in the same year emphasised, the need for a new shared vision of a common destiny <sup>[13]</sup>.

UNEP, UNESCO and other partners held in 2016 in Tehran the second International Seminar "Environment, Culture and Religion – Promoting Intercultural Dialogue for Sustainable Development" examined the nexus of environment, religion and culture, as a direct response to the 2030 Agenda for Sustainable Development <sup>[14]</sup>.

### **What are Nature-Based Solutions?**

Nature-Based Solutions is an umbrella term for various approaches that share common features and are designed to protect the natural environment whilst addressing societal challenges. These approaches are inspired and supported to work with nature itself and its capacity to self-heal. Human wellbeing and biodiversity depend directly on healthy, diverse and resilient ecosystems, with [Nature-Based Solutions](#) acting to protect, restore and sustainably manage them and the range of essential services they provide. NBS can become an important strategy in climate change mitigation and adaptation, ecosystem restoration and fighting pollution by

addressing major related issues such as food and water security or natural disaster resilience. Nature-Based Solutions should be flexible, locally adapted, systemic and grounded in the best environmental science and knowledge to ensure they are properly implemented to create the most benefits, for people and planet <sup>[15]</sup>.

By drawing upon nature itself, NBS' also have the potential to be one of the most cost-effective and efficient strategies we have against climate change and environmental degradation. They primarily work with and around natural systems, instead of relying on expensive technologies, feats of engineering or the use of conventional infrastructure materials of steel and concrete. Therefore, investing in Nature-Based Solutions means utilising renewable natural processes and local resources whilst decreasing the use of costly external inputs of energy, money, materials and human management. This makes Nature-Based Solutions very appealing routes to sustainable development and one that is more open to broader participation given they are more environmentally affordable than other strategies <sup>[16]</sup>.

Many Nature-Based Solutions draw upon historical knowledge and practices. With a well-developed strategy and a deep understanding of local ecosystems, organisations can contribute to these processes. Nature-based solutions should be employed not only to protect existing ecosystems, but restore previously degraded ones.

An example of an effective nature-based solution is [mangroves](#). Mangroves have long acted as a great buffer between the land and sea, serving to protect local communities from strong winds, storms and coastal erosion. They also support fishing, supply water resources, provide timber, are effective carbon sinks and important sites of biodiversity. Therefore, when mangroves are degraded and their resources depleted, local communities risk food and water insecurity, as well as becoming much less resilient to natural disasters. So, mangroves supply critical services and their destruction is bad for both the environment and people in surrounding areas <sup>[17]</sup>. Restoring them creates benefits across the board, ensuring a more sustainable future. Nature-based solutions can also be synergised with *grey* infrastructure when necessary to create *hybrid* solutions. An example of this would be the systems of dikes and sea gates constructed along the [Dutch coast](#) <sup>[18]</sup>.

## The UN and Nature-Based Solutions

The United Nations has embraced the benefits of Nature-Based Solutions, with the [Climate Action Summit](#), convened by the UN Secretary-general, in September 2019, bringing NBS to global political attention as an important strategy in climate change mitigation and adaptation. To this end an NBS Coalition co-led by China and New Zealand, launched the [NBS for Climate Manifesto](#) that seeks to mobilise support from governments, the private sector, civil society and international organisations to massively scale up land restoration activities worldwide <sup>[19]</sup>. This has already been accompanied by nearly [200 initiatives](#) from around the world, and organisations of any size can draw inspiration from these as an example of best practice <sup>[20]</sup>.

Indeed, the UN Environment Programme has also called for “an urgent, massive investment effort to conserve and restore biodiversity and ecosystems, and drastic change in the way we interact with and depend on nature, to unlock its full potential” <sup>[16]</sup>. UNEP estimates that by working with nature, we have the potential to reduce emissions by more than a third by 2030. This is especially important as the United Nations has recently launched its [Decade of Ecosystem Restoration](#) and is reviewing national commitments to the Paris Agreement and the

Sustainable Development Goals <sup>[21]</sup>. See the various ways how UNEP, with its partners, is committed to nature-based solutions [here](#).

UNEP is working from the ground up, with small communities and at the highest levels, to carry out nature-based solutions. This can be through raising awareness around NBS and supporting a wide range of restoration initiatives such as agroforestry, reforestation and afforestation programmes, particularly in tropical region, to reduce land degradation while soaking up carbon. UNEP is also assisting countries define, implement and monitor their national biodiversity action plans and ecosystem-based climate change adaptation plans <sup>[16]</sup>.

Finally, *Strengthening Actions for Nature to Achieve the Sustainable Development Goals* is the theme for the upcoming United Nations Environment Assembly (UNEA5) to be held in February 2021. This session is intended to “mobilize, motivate and energize member States and stakeholders into sharing and implementing successful approaches and Nature-Based Solutions that contribute to the achievement of the 2030 Agenda” <sup>[22]</sup>. This will bring NBS further into the forefront of global policymaking and environmental action.

### **Other Multilateral Engagement with Nature-Based Solutions**

The European Union is also increasingly invested in nature-based solutions which it describes as “living solutions inspired by, continuously supported by and using nature, which are designed to address various societal challenges in a resource efficient and adaptable manner and to provide simultaneously economic, social and environmental benefits” <sup>[23]</sup>. The European Union believes NBS is a realistic sustainable pathway that will allow for targets of job creation, growth, competitiveness and innovation, whilst tackling global environmental challenges. This forms part of the EU’s *Biodiversity Strategy to 2020, Horizon 2020 Programme* and *Green Infrastructure Strategy* for a more sustainable Europe. Significant funding, research and innovation programmes have been directed towards implementing NBS within and beyond EU boundaries <sup>[23]</sup>.

There are other multilateral entities that are advocating for NBS. The African Development Bank has also explored whether nature-based solutions are the key to Africa’s climate response <sup>[24]</sup>. Simultaneously the Asian Development Bank has also explored the role of NBS in building resilience, particularly in the greater Mekong sub-region <sup>[25]</sup>.

These are important developments as in order to stay within safe planetary boundaries, nature itself, must be brought into development, policymaking and climate solutions in a coherent way and at unprecedented scale <sup>[26]</sup>. The ongoing Covid-19 pandemic has emphasised humanity’s unhealthy relationship with nature and despite immense changes in countries around the world, the climate crisis continues unabated. NBS offers a chance to rethink this relationship and offers numerous opportunities to forge a new sustainable future, one that still accounts for the four dimensions (social, economic, environmental and cultural) of sustainable development.

### **Faith-Based Organisations and NBS**

The Faith for Earth Initiative aims to build on this momentum and increase faith engagement with the ideas and practices of NBS. Fortunately, we have a lot to draw upon as faiths have long been engaged in NBS practices, even if they weren’t necessarily described as such. This following section will demonstrate historical and contemporary examples of faith communities

using Nature-Based Solutions and why FBOs can become incredibly important actors in this field.

Roughly 85% of the global population is affiliated with a religion or faith, with spiritual beliefs influencing people’s worldviews and decisions. Further, 5% of commercial forests, 10% of habitable lands belong to FBOs and 50% of schools are run by FBOs <sup>[27]</sup>. These figures highlight why FBOs can be an indispensable power in the implementation of nature-based solutions given the extensive land and resources under their control and the educational leverage they have. The influence of faith leaders and the substantial wealth of natural assets of some FBOs are further resources to assist faith actors in such ethical environmental action. However, the influential outreach, credibility and connection with faith followers are the most essential resources that can lead to behavioural change in believers.

Indeed, the concepts and practices of proactive environmental conservation within religions appeared much earlier than the first modern conservation movements in the West during the mid-19<sup>th</sup> century. Many of these conservation movements themselves emerged from religious organisations and were inspired by faith teachings. As stated above, there is a clear history of environmental consideration within religions and folk traditions, reflected in scriptures and practices, some which pre-date contemporary religions. This rich history is further manifested in the location of sacred sites of worship, many of which are found in areas of natural beauty.

### **Examples of Faith and Nature-Based Solutions**

Ancient Sanskrit texts from India (Mahabharata, Ramayana, Vedas, Upanishads, Bhagavad Gita, Puranas and Smriti), explicitly address the relationship between humans and nature. These are considered some of the oldest religious texts in the world, from which much of Hinduism is descended. Ecology is central to the spiritual worldview in Hinduism and there is significant emphasis concerning environmental ethics, with people expected to live in harmony with nature and recognise that divinity prevails in all elements, including plants, animals, rivers and other natural features. Perhaps the most notable example is the river Ganges being personified as the goddess **Ganga** <sup>[28]</sup>. The Bhagavad Gita instructs to not exploit and shape the environment to fulfil human needs, but instead advocates for a balance in earth’s ecosystems and has many prohibitions on harming the environment. There are clear messages of conservation embedded, which can even be viewed as nature-based solutions. For example, there is guidance on not uprooting trees by rivers as it can cause erosion and flooding, as well as preventions on polluting. There are even messages on not harming the sky, which today we might consider the atmosphere. Overall, there is a spirit of non-violence within Hinduism, that extends to all living beings and emphasises that humans are not above nature. This spirit extended to neighbouring religions of Jainism and Buddhism <sup>[28]</sup>.

Muslim spiritual ethics teach that such environmental care is not for people alone, but for all life. People are instructed to act as *Khalifa*, or trustee of God, and entrusted with the safekeeping of life on earth <sup>[1]</sup>. The first Global Environmental Forum from an Islamic Perspective, held from 23 to 25 October 2000 in Jeddah, Saudi Arabia, with UNEP as a partner, adopted the Jeddah Declaration on the Environment from an Islamic Perspective. That Declaration advocates for environmental protection and notes that sustainable development from an Islamic perspective is the development and rehabilitation of the Earth in a manner that does not disrupt the equilibrium established by God <sup>[29]</sup>.

### **Faiths and Forests**

Another environmental principle that features in Hinduism, and indeed a majority of spiritual and indigenous traditions, is viewing trees as sacred and providing many benefits, both spiritual and material. Trees and forests have often been revered and protected by various religions, with mention of them regularly found in scriptures. Building on these historical traditions, tree planting and protection initiatives are increasingly popular amongst faith-based organisations. Such initiatives are also affordable and can easily mobilise members of a faith-community to climate action.

Sacred groves are found all throughout the Indian subcontinent and South-East Asia with reference made to them in Hindu, Jain, Daoist, Sikh and Buddhist sacred texts. These groves are usually associated with local temples, monasteries or shrines and situated in pristine natural environments. They are communally protected, with unsustainable practices being banned, such as hunting, logging, clearing or irrigation systems <sup>[30]</sup>. Traditionally they served as sites of prayer and contemplation, as well as providing medicines and renewable resources such as fruits, dry-wood and honey. Today many act as biodiversity hotspots as more and more species are threatened with habitat destruction, both flora and fauna. In areas like Rajasthan, they have also helped prevent desertification and can be considered a precursor to bold initiatives such as the Great Green Wall <sup>[31]</sup>.

Japanese Shintoism is grounded in rural agricultural tradition, with ceremonies and practices that guide the relationship between people and nature. A key component of this is the establishment of [Sacred forests](#) (鎮守の森) that have been inherited generation by generation, preserving ancient trees and plants, as well as sustaining animals that rely on them. Many Shinto shrines are built of wood and situated in forests or groves, and spirits (*kami*) are believed to reside in trees <sup>[32]</sup>. These sites serve to emphasise the mutual relationship that binds humans and nature, and these customs and practices could be embedded into nature-based strategies. Further, they also act as biodiversity reservoirs and communities/societies with declining biodiversity are seen to be in decline themselves <sup>[1]</sup>.

In Ethiopia, of the only 3% of primary forests that remain, the majority are found in groves protected by [Orthodox churches](#). Ethiopian Orthodox churches were historically designed as symbols of paradise, resembling the garden of Eden and these church forests are closely tied to spiritual practices. Often these tiny native forests lie on only a few hectares adjacent to a church. Yet these forests contain the endemic biodiversity of the Ethiopian highlands that are increasingly being lost to agriculture, cattle grazing and industry <sup>[33]</sup>. Building simple stone walls around them prevents cattle from eating new growth and allows trees to flourish undisturbed, slowly increasing the size of these church forests. This cost-effective nature-based solution is a mild adaptation of a religious practice that has been ongoing for hundreds of years and another example of why faith actors can be so important moving forward <sup>[34]</sup>.

The Hima (reserve) system in Islam is another demonstration of organized protected areas that dates back thousands of years. The word “*hima*” in Arabic means a “protected or forbidden place”. Hima was developed by early Muslims to protect trees, regulate grazing and provide socio-economic and environmental benefits for the entire society in the highly arid Arabian Peninsula where conservationist water practices are essential. Different types of Hima existed to stop desertification, deforestation, allow bee-keeping and regulate grazing <sup>[35]</sup>. One criteria for establishing Himas is that it must be established in the way of God; for [public welfare](#). Two examples of large scale Himas established by prophet Mohammad are the cities of Makka and [Medinah](#).

The Maronite Church of Lebanon has protected the forests of Harisa, a WWF Mediterranean Programme “forest hot spot” for over 1000 years. Indeed, the Lebanese flag today features a Cedar tree at the center <sup>[1]</sup>.

In Pakistan, rare species of original trees are still found in old Muslim graveyards, due to prohibitions against cutting such trees. This is another example of where endemic species have been preserved due to religious guidance <sup>[1]</sup>.

Further, inspired by the scriptures or spiritual principles, some religious sites have been built for novel plantations. Over 50 plants are mentioned in the Qur’an and Sunnah and over 120 in the Bible <sup>[36]</sup>. There now exist Islamic, Biblical, as well as Baha’i botanical gardens, which serve as repositories of biodiversity and offer pilgrims a destination for eco-tourism and a chance to see rare flora.

Eco-Sikh’s [Guru Nanak Sacred Forest](#) project draws upon Sikh principles whilst using the renowned Miyawaki Method in their forestry work. The Eco-Sikh initiative draws upon religious ethics in their integrated approach. This approach centers around a holistic vision that demands that injustice against the environment and people be combatted together. All life relies upon a bounteous nature, and when it is degraded it is the poorest who suffer first and foremost. Hence why Sikh tradition has placed great emphasis on recycling, avoiding waste and limiting the use of resources, alongside a spirit of community sharing of resources. The Guru Nanak Sacred Forest project is reflective of a broader environmental ethic within Sikhism. One that believes that an awareness of the sacred relationship between humans and the environment is necessary for the health of our planet and humanity’s survival. This ethic is not confined to the Sikh community alone, but to all of humanity and nature, advocating that people cease to exert mastery over nature and exist in harmony instead <sup>[37]</sup>.

Last but not least, in terms of restoration at a large scale, over the last decade, FBOs have invested finance, lands and labor into scientifically based plantation initiatives. Christian and Muslim groups across Africa have committed themselves to planting millions of trees over the last decade <sup>[33]</sup>. Contemporary Tu BiShvat (New Year of the Trees) in Judaism is also celebrated through tree planting for this ecological awareness day <sup>[38]</sup>.

### Interfaith Efforts

Overall, many faith communities have long attached importance to trees and protected them for the multiple benefits they provide. These traditions contain a big reservoir of knowledge

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