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Preserving the Buzzing and Blooming Bounty and Beauty of our Planet – A Reflection on Pollinator Protection and the Earth Charter



Michael Slaby

Michael Slaby is a changemaker with more than 25 years of experience in sustainability, biodiversity, and interfaith dialogue. Michael holds a master's degree in Comparative Religion, Political Studies, and International Law. He started volunteering for Earth Charter Germany in 2001 and served as international Earth Charter Youth Coordinator from 2002 to 2006. He then joined the Earth Charter International full-time staff and coordinated the Earth Charter Task Force on Religion and Sustainability – working remotely out of the office of Earth Charter Commissioner Rabbi Awraham Soetendorp in the Netherlands. In this role he assisted delegations of spiritual leaders to raise their moral voices at major UN Conferences such as the Rio+20 Summit in 2012. He currently works as development director of Mellifera Association in Germany. As nature enthusiast and father of four children he cares passionately about promoting smart solutions to our twin climate and biodiversity crises.



I have been active in the Earth Charter Initiative, both on a voluntary and full-time basis for more than thirteen years, and since 2014, I have been professionally involved with Mellifera e. V., Germany's leading organization for respectful beekeeping. In this new role, I strive to protect bees, pollinating insects, and biodiversity. Many of the principles of the Earth Charter come to life in the effort to maintain the rich diversity of pollinating insects. Below I outline both the marvels and endangerment of bees, what we can learn from them, and how to become involved with the Earth Charter and protecting our pollinators.

How Bees Lend Wings to People and the Planet

Bees are incredibly important to humans and the planet: every third bite of our food relies on pollination by bees and other animals, especially insects. More than 75% of our major agricultural food crops benefit from animal pollination, especially most fruits and vegetables [IPBES, 2016]. Globally, nearly 90 per cent of wild flowering plant species depend, at least in part, on the transfer of pollen by animals. Pollination



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also enables greater variety and better quality of fruits, vegetables, nuts, and seeds [IPBES, 2016].

Bees are the most dominant species of pollinating insects. Worldwide, there are about 20,000 different bee species, but only around 50 are kept by humans [Patel, 2021]. The most kept bee is the honeybee which has developed a fascinating social behaviour in the bee colony over thousands of years.

The honeybee and certain butterflies are widely recognized for their crucial role in pollination. Nevertheless, numerous native bees, hundreds of butterfly species, and various other insects, birds and small mammals also contribute to this service, both in agricultural settings and natural ecosystems.

Honeybees are commonly kept in hives, predominantly managed by humans. On the contrary, other species, such as native bees, are generally less social, nesting in diverse locations, and are not subject to human management. The distinction in their "lifestyles" is often depicted as managed pollinators, akin to livestock, versus native, wild, or feral ones that exist in the wild.

In their paper "Why Bees are Critical for Achieving Sustainable Development," Patel et al. [2021] state that bees contribute to 15 of the 17 Sustainable Development Goals (SDGs). So, their survival and well-being are of vital importance for fostering sustainable development.



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Bees and other pollinators are therefore not only essential for achieving SDG 2 of ending hunger and ensuring access by all people to safe, nutritious, and sufficient food, they also play an indispensable role in preserving life on land (SDG15), especially by contributing to halting and reversing land degradation and biodiversity loss.

More than 90 percent of all flowering wild plants rely on pollination to reproduce. Without pollination, these plants would be unable to produce the seeds and fruits that are important sources of food and habitat for other animal species. Therefore, entire food chains in the ecosystem rely on this important ecosystem service and are affected by declines in pollinator populations.

Throughout the centuries, bees have also played an important role as inspirations for art, music, religion, and technology. In all major religious and spiritual traditions, we find sacred passages about bees. In the holy Qur'an, for example, the 16th chapter (surah) is called Al-Nahl – the bee.

Pollinators under Threat and What is Necessary to Protect Them

Despite their crucial role, more than 40 percent of pollinator species worldwide face the threat of extinction (IPBES, 2016). The primary factors contributing to their decline include habitat loss, pesticides, intensive agriculture, pollution, and climate change.

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According to the BugInfo platform of the Smithsonian (n.d.), insects constitute 80 percent of the world's species. The consensus among experts is that the number of undescribed insect species surpasses the count of those already named and documented by science. Conservative estimates propose a figure of 2 million, while some projections extend



this range up to 30 million. It is assumed that a particularly large number of insect species that have not yet been discovered occur in the world's tropical forests ["BugInfo Numbers," n.d.].

Due to their staggering biomass, insects constitute the basis of many food chains. Spiders, fish, reptiles, amphibians, birds, and mammals rely on insects as important sources of proteins. For halting biodiversity loss, it is therefore imperative to curb the decline of insect populations. And for doing so, a smart strategy is to start with protecting pollinating insects, especially bees as they represent keystone species that have a disproportionately large effect on their natural environment.

Recent studies emphasize the importance of pollinator diversity: the benefits of diverse pollinators for healthy ecosystems and human welfare cannot be achieved by solely increasing the abundance of managed pollinators such as honeybees [Katumo, 2022].

Addressing the pollinator crisis requires a comprehensive approach, encompassing the implementation of regenerative land-management practices, the revitalization of pollinator habitats, safeguarding and re-establishing native environments, and undertaking educational and advocacy initiatives. Participation can take various forms, from cultivating native gardens with a focus on pollinators to minimizing pesticide usage and fostering awareness and love for these essential species.

Promoting the Well-being of Bees, Pollinating Insects, and Biodiversity in Germany

In 2014, my wife became pregnant, and we learned that she would be having twins! Because we already had two children, it was clear that I would have to give up my professional commitment to working with Earth Charter Commissioner, Rabbi Soetendorp and look for a more secure and stable income to support our growing family. Fortunately, I got a position as development director at Mellifera Association in Germany and was able to immerse myself in the topic of protecting bees and other pollinators.

The 2,000-member association is active throughout Germany and coordinates around 60 voluntary regional groups. It has been committed to promoting the well-being of bees and pollinating insects for almost 40 years. For me, it was and is an incredible gift to be able to work in a committed team of more than 30 full-time employees on a large variety of bee-related projects and ecological and educational programmes.



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Our association is active in various project areas to create a healthy and diverse world with bees, people, and nature living in harmony. In courses, workshops and a wide range of other educational programmes, we show how honeybees can be kept responsibly and in accordance with their nature. In the tradition of respectful beekeeping, we prioritize connecting to the bees and allowing them to live out their natural needs over fostering high honey yields.

Our educational programme “Bees in School” gets young people excited about bees and gives them the opportunity to be directly immersed in nature with bees. Another initiative that we are promoting is the Network Flowering Landscape (Netzwerk Blühende Landschaft or NBL in German), which works with numerous partner organizations from the fields of nature conservation, agriculture, and beekeeping to create a diverse, blooming landscape that offers long-term, favourable living conditions for all pollinating insects.

NBL conducts several successful projects aimed at demonstrating how the transformation for the welfare of bees and other pollinators could look like. Examples include planting flowering stripes on agricultural fields to attract beneficial insects and partnering with local communities and regional governments to install flowering “bee highways” alongside streets, hiking, and cycle paths.

Unlike generalist bee species such as honeybees and bumble bees that may visit a wide variety of flowers, around 30 percent of Germany’s wild bee species have adapted to specialize in pollinating a particular plant species or a group of closely related plants. These plants constitute their sole source for pollen. For supporting these oligolectic bee species it is therefore imperative to sow native wildflowers within their rather small flight range.

In our project “pollinators’ paradise,” we partner with farmers, local communities, businesses and interested citizens to create a “blooming belt” of flower patches



across Germany. To date, our partners have already planted more than 2.5 million square meters of perennial flowering patches according to our specifications. The patches we plant are mainly comprised of native wildflowers, beneficial to a wide range of wild pollinators, including specialized bee and butterfly species. Other measures implemented in the project also include the planting of perennial flowering meadows, hedgerows, and meadow orchards. These activities are being funded by a growing number of individuals and businesses who pledged to fund a certain amount of blooming square meters with their “blossom sponsorship.”

Relating the Promotion of Insect Diversity to the Earth Charter

The Earth Charter is an important guide and inspiration for my work. I sense that many people I encountered who are actively involved in pollinator protection are guided by the understanding that “the protection of Earth's vitality, diversity, and beauty is a sacred trust” [Earth Charter Commission, 2000].

Although preserving the ecosystem service of pollination is very important, most people working to protect bees do so out of the conviction that bees are miracles of nature and worthy of our protection, not because of the services and products they provide but because of their intrinsic value and beauty. This certainly corresponds to Earth Charter Principle 1, Respect Earth and life in all its diversity.

The more I dive into the topic of biodiversity, the more the following passage of the Earth Charter Preamble comes to life: “The resilience of the community of life and the well-being of humanity depend upon preserving a healthy biosphere with all its ecological systems, a rich variety of plants and animals, fertile soils, pure waters, and clean air” [Earth Charter Commission, 2000]. Biodiversity, which is commonly understood as diversity of species, diversity of genes and diversity of habitats, must be considered our planetary life insurance; it is the hidden safety net that supports, nourishes, and protects us. Unfortunately, with every species we lose, this net becomes increasingly scattered.

Earth Charter Principle 4 - “Protecting Earth's bounty and beauty for current and future generations” is a central motivational guidepost for me.

As a father, I often ask myself what kind of world we are leaving behind for our children and grandchildren. It breaks my heart that, compared to the populations of some 200 years ago, we only find a fraction of bees, insects, and birds in Germany, and even this remainder continues to dwindle rapidly.

Therefore, the role of education is of vital importance to me. As we experienced in our educational programmes, connecting to the bees provides a direct and practical way to inspire a sense of awe and beauty as we marvel at the wonders of nature the bees present to us.



A honeybee colony is greater than the individual bees it is comprised of; in a beehive, thousands of worker bees, male drones, and a queen bee work together as a superorganism. They communicate through dances and form their collective decisions in this way. In the process of finding a new nesting site for the colony, the scout bee that succeeds is the one that inspires the most other bees to follow it. By opening the hive, we may catch a glimpse of this fascinating interplay of the bees within the superorganism of the colony.

Looking deeply into the process of pollination reveals the marvellous interdependence of wild-flowers and pollinating insects that have co-evolved over millions of years: the flowering plant relies on the specialized bee for effective pollination, and in return, the bee depends on the plant for its food source.

This interdependence can result in specific characteristics such as flower

shapes, sizes, and colours that are tailored to attract and accommodate the specialized bee. At the same time, the respective pollinating insects have developed mouthparts, proboscises, and tongues that are precisely adapted to the flower shape on which they are specialized as their food source.

Red clover for example cannot be pollinated by bees as their tongues are too short – red clover relies on long-tongued bumble bees for the transfer of pollen necessary for its reproduction. Pondering this amazing interplay of plant and pollinator brings to life the interdependence of all life on Earth as outlined in the Earth Charter. Reflecting on how we as humans are rapidly and massively affecting the plant – pollinator relationship that has evolved over millennia evokes in me a deep sense of “humility regarding our place in nature” which is stated in the Earth Charter Preamble [2000].



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The fact that we rely on the apples, the tomatoes and the strawberries that would not exist without the blooming plant and the pollinating insects shows our direct relationship to the plants and the pollinators.

It gives me hope that by choosing the right actions and adopting the appropriate strategies for systemic change, we can do our utmost to provide favourable conditions for our pollinators, which again has positive consequences for the plants they visit.

I also take hope from the fact that more and more people are waking up and looking for creative solutions. Many people are beginning to create blooming havens for bees, bumblebees, and butterflies, calling for far-reaching political and legal changes such as a ban on highly hazardous pesticides, and questioning their own consumption habits. These transformations on the individual, community, and global level need to be enhanced and scaled simultaneously.

Even when I am frustrated that the much-needed change is not progressing fast enough, it is in connecting to nature that I find solace. By allowing myself to be touched by the magic of the bees, the birds, and the beetles, I sense that we, too, are part of this marvellous community of life and that we form one Earth community with a common destiny. This is where for me, the “spirit of human solidarity and kinship with all life” and a deep sense of “reverence for the mystery of being” (Earth Charter Commission, 2000) find their meaning.

In these moments it occurs to me that it is us, human beings, who need to be saved and protected - from ourselves, our greed, and our selfishness. And for this purpose, we need the example of the bees, which exemplify new ways of living together as a human family on a shared planet. In this sense, we may need the bees more than they need us.

And this is yet another hopeful lesson that I learned from the bees: If we create the appropriate habitats, the diversity of life will return. Again and again, I was able to experience how a colourful flower meadow emerges from a dead lawn on a small patch of earth, and how caterpillars, beetles, grasshoppers, butterflies, and bees gather there. First it blooms, then it hums, buzzes, and crawls, then soon the chirping and singing insectivores arrive again. And with a bit of luck, we may soon spot birds of prey or other larger predators again.

And so, nature teaches us to always start anew, again and again, day by day, with those small steps to justice, sustainability, and peace right where we are. With mindfulness, we may learn to open into wonder, to fall into freedom, to relax into joy, and to lean into love.

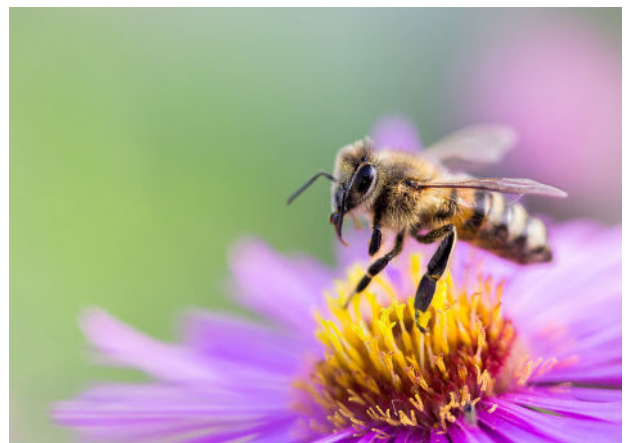



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