

## EDITORIAL

# Integrating One Health Across Biodiversity, Biotechnology, and Environmental Sustainability

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**Dear Readers,**

It is a great honor and privilege to write this editorial for the December 2025 issue of *The Palawan Scientist*. Reading the various articles featured in this issue has reminded me of how diverse our research endeavors are. I am impressed by the diversity of fields featured in this issue, as it calls for a **ONE HEALTH** approach, a widely recognized multidisciplinary collaboration between human, animal, and environmental health. It emphasizes how biodiversity conservation, sustainable food systems, environmental preservation, and technological development are all intertwined.

I started my veterinary training with a straightforward view of the type of work I would be doing: treating animal diseases, identifying pathogens around us, and exploring how animals can stay healthy. The global call to action for the One Health approach has become increasingly prominent over the years, and attention on that is starting to change. The call for a One Health approach has influenced not just how we conduct research but also how we understand or perceive our responsibilities. Instead of considering only the animal in front of me, I am now thinking about the people who lived with them, the environment they lived in and the factors that influenced their health. It was increasingly difficult to ignore how all of these pieces were connected. Today, our responsibilities extend beyond diagnosing infections and preventing outbreaks; they now include understanding the crucial connections between people, animals, and the environment. A significant part of our work today focuses on environmental challenges, public health, and the interactions among communities, animals, and ecosystems. It is not a sudden transformation but rather a gradual widening of perspective.

Research on marine organisms, endemic plants, natural products, pollution control technologies, genetic tools, and socio-cultural innovations collectively advances our understanding of the One Health paradigm. Reading through the wide range of articles in this issue, there is a profound understanding of the inherent interconnectedness of humans, animals, plants, and the shared ecosystems. Furthermore, there is a strong emphasis on ongoing research priorities dedicated to serving the public interest. Studies on *Tripneustes gratilla*, *Tridacna noae*, and the recently identified moray eel underscore how environmental changes and biodiversity loss continue to affect coastal communities. Our understanding of conservation efforts, crop development, and ecological shifts has significantly improved through studies of the Victoria–Anepahan Mountain Range and DNA barcoding of *Allium chinense*. Taken together, understanding conservation and habitat features is critical in ensuring adequate biodiversity protection and management.

Other articles in this issue explore innovative solutions for environmental health—a part of One Health. Studies on the mitigation of pollution, plant antioxidants, and plasma-activated water demonstrate how technology can be used to restore ecological quality amid environmental contamination and strengthen agricultural resilience. Studies on the biological properties of plants also highlight the significant role of natural resources as antioxidants, antiglycemics, antibacterials, and antifungals as alternatives to address the growing global concerns about antimicrobial resistance (AMR) and the development of new drugs. Such innovations demonstrate how biotechnology can enrich healthcare, food systems, and conservation efforts in a One Health context. On the other hand, the study on insect-eating festivals in Muslim Mindanao as a tool for promoting entomophagy demonstrated the importance of cultural knowledge and community-driven interventions to sustainably support food practices while respecting cultural traditions.

This issue also features an article on the use and role of ChatGPT in higher education across Southeast Asian countries, with a focus on Indonesia, Malaysia, and the Philippines. The article highlights both the negative and positive impacts of using AI tools. It reflects on how digital transformation affects the community, as well as the challenges posed by technological dependence, ethical practices, and research integrity. Given these opportunities and challenges, AI literacy will have a direct impact on society, and education policy guidelines will be necessary. It is also important to understand the role of digital tools in education.

Collectively, the papers in this issue encourage us not only to understand One Health as a scientific framework but also to recognize it as a reminder of our shared responsibility. There are two themes that emerge from the articles in this issue. First is an honest appreciation of the extent to which our health depends upon nature. Next is the dedication and commitment to research that serves the public good, research that does not stay within the four corners of the laboratories or conference halls but touches people, communities, policy, and everyday life. These articles remind us why the integration of human, animal, and environmental health has never been more important.

We hope this issue inspires every reader. May these pages ignite new debates, enhance collaborations, and inspire us to reflect on the gentle question: **What can we do to care for the world so it will care for us in return?**