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# CONTRIBUTION

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## Backing Ecologists to Succeed and Thrive (BEST) in Crisis Zones: Inspirations From the 2024 ESA Annual Meeting

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### Introduction

Ecologists worldwide are striving to study and investigate the impacts of global environmental changes on biodiversity and ecosystem services. Nevertheless, this goal is challenged by many obstacles, including conflicts and wars that are spreading in many regions around the world. Ecologists who are living and/or working in these crisis-affected areas suffer much hostility, risks of loss of life, destruction of research facilities, and career disturbances, all of which significantly hinder ecological research, creating great data and research gaps that might bias our understanding of the ecological processes. Therefore, supporting ecologists from conflict-affected zones is crucial and can substantially advance ecology and ecological understanding.

Mentoring has long been recognized as a valuable relationship that benefits both mentors and mentees. For early-career ecologists, a mentor can offer advice, feedback, networking opportunities, and emotional

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support that aid career progression. This is especially impactful for those practicing in high-risk environments where access to resources and collaboration may be limited. Beyond individual benefits, mentoring also strengthens the scientific community. Mentees gain knowledge and skills that can then be passed on to future generations, multiplying the long-term positive impacts (Emery et al. 2019, Stuchiner et al. 2022).

For ecology as a field, sustained mentorship is vital for ensuring the continued development and sharing of ecological understanding (Lowman and Randle 2009), even during times of crisis. Through guidance, collaborative projects, and advocacy support provided by mentoring programs, the next generation of scientists can advance knowledge and build capacity in regions experiencing instability. This helps maintain crucial long-term datasets, monitor changes to ecosystems, and inform conservation efforts. Sustained research is key to building scientific understanding of complex natural systems, which may face increased threats from conflicts, climate change, and other global changes.

Consistent with the theme of the 2024 ESA's Annual Meeting on Supporting Ecologists Throughout their Career, we organized an Inspire session (i.e., INS 09-04; Backing Ecologists to Succeed & Thrive (BEST) in Times of Crisis), which aimed to have an in-depth discussion on strategies for supporting young ecologists practicing in conflict-affected areas. In this commentary, we report on the outcomes of our Inspire session by providing a summary of six lightning talks presented, as well as recommendations and potential directions that emerged from participants in the discussion.

### Summary of presentations

In a hybrid 90-min session, we presented six lightning talks (5 min each) on different related aspects, followed by a moderated discussion/interaction time of an hour. Topics covered in each talk were: [Conducting Ecology in Conflict-Affected Areas: Threats and Opportunities](#) (Talk 1), [Building successful mentoring programs for young ecologists in times of crises](#) (Talk 2), [Challenges ecologists face in conflict-affected areas](#) (Talk 3), [How can ecologists in the U.S. be better backers?](#) (Talk 4), [What is it like to be an ecologist in Pakistan?](#) (Talk 5), and [A student perspective on ecology during conflict](#) (Talk 6), followed by a 60-min open discussion (Fig. 1).

The talks explored both the challenges ecologists face in conflict-affected areas as well as strategies for overcoming obstacles. Talk 1 examined the threats ecologists may encounter when conducting fieldwork in conflict zones, but also discussed opportunities that can arise. Talk 2 delved deeper into how mentoring programs can help train and support early-career ecologists during difficult times. Talk 3 provided insights into specific challenges ecologists face related to security concerns, lack of resources, and disruptions to research. Talk 4 then discussed how ecologists based in more stable countries like the United States can better advocate for and assist their counterparts working abroad. Finally, the session also included personal perspectives from the field as Talk 5 shared what the experience is like for an ecologist conducting research in Pakistan, a region impacted by political instability and violence, whereas Talk 6 offered a student viewpoint from Sudan on navigating ecology studies and research during times of conflict or crisis.

Overall, the session has not only contributed to raising awareness of issues confronting ecologists in unstable parts of the world but also explored mentoring and collaboration options as ways to strengthen the next generation of scientists facing adversity in their important work. The mix of talks covered both challenges and solutions to building successful programs.



Fig. 1. Picture of the organizers and speakers of the Inspire session (i.e., INS 09-04; Backing Ecologists to Succeed & Thrive (BEST) in Times of Crisis), which took place during the 2024 ESA's Annual Meeting. Photo credit: Mr. Nameer Baker.

### *Recommendations and potential directions*

Following the six presentations, an hour of open discussion took place, and both participants and speakers provided valuable insights and recommendations. To strengthen mentoring of young ecologists in at-risk areas, several recommendations were proposed. Programs should facilitate ongoing remote collaboration between mentors and mentees through virtual working groups and data sharing, as fieldwork is often interrupted by instability. Partnerships could be formed between organizations (e.g., universities) based in crisis contexts and those in more stable regions to support educational opportunities through remote seminars or workshops. Increased dedicated funding for mentoring initiatives would aid career development, help build local capacity in scientific skills and leadership, and boost the resilience of the next generation of scientists. Advocacy efforts and fundraising campaigns led by international networks of ecologists could help draw attention to under-supported issues and ecological crises in conflict-affected regions.

In addition to the recommendations above, some existing mentoring programs provide models that could be adapted for ecologists in conflict-affected regions.

1. First, the Ecological Society of America's (ESA) Strategies for Ecology Education, Diversity and Sustainability program (SEEDS) is a flagship program that has proved its efficiency in delivering excellent mentoring to young ecologists from diverse backgrounds, especially underrepresented groups, throughout the United States. Therefore, establishing a dedicated chapter within this successful program to support ecologists in Crisis Zones would make a significant contribution to young ecologists in these areas. For more details about SEEDS, please visit (<https://esa.org/seeds/>).
2. Second, the example of the American Association for the Advancement of Science (AAAS) Science & Technology Policy Fellowships (<http://www.stpf-aaas.org/>), which places early-career sci-

entists as paid fellows in government agencies and Congress. A similar remote fellowship model could support young ecologists by pairing them with policy and NGO partners to inform crisis response efforts.

3. Third, the Organization for Tropical Studies Graduate Research Training Program has a proven track record of building scientific capacity in Latin America through long-distance mentoring and collaborative field research. A program emulating this model of remote guidance and partnership projects could strengthen skills and resilience for ecologists isolated by conflict. Please visit this link for more details <https://tropicalstudies.org/graduate-programs/>.
4. Fourth, the International Women's Fishing Association (<https://www.iwfa.org/>) runs seafood industry mentorships that have increased career opportunities for women through online networking and professional development resources. A digital mentoring hub providing a virtual community, training, and career advising would help ecologists facing limited fieldwork access due to the crisis.
5. Fifth and finally, the American Geophysical Union's EDGE program successfully pairs early-career scientists with established professional mentors in annual cohorts for long-term career advising and collaboration. Creating a similar sustained mentoring network could help young ecologists navigate challenges in conflict-affected regions over many years. For more details about the EDGE program, please visit (<https://www.agu.org/learn-and-develop/learn/mentoring-programs/mentoringnetwork>).

Drawing from proven approaches like these successful programs, mentoring initiatives have the potential to make a meaningful impact on developing the next generation of ecologists worldwide, even in areas experiencing crises through remote guidance, partnership projects, and professional community support.

### Conclusion

Sustaining long-term ecological understanding, even during times of upheaval, requires a sustained global commitment to mentoring and collaboration. With thoughtful, well-supported programs, the next generation of ecologists can advance knowledge and build scientific capacity even in regions experiencing political instability and conflict through remote guidance, partnership projects, and advocacy support. The discussions at this session highlighted that through coordinated mentoring initiatives, young ecologists' important work can continue developing our understanding of complex systems worldwide, including in areas experiencing crisis.

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## Disclaimer

We note that an early version of this article was structured and drafted with the aid of ChatGPT4.0 installed within Harvard's Sandbox AI tool.

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