

What does it take to have a mutually beneficial research collaboration across countries?

Yaya Rayadin^{1,2} | Zuzana Buřivalová³ 

¹Forestry Faculty, University of Mulawarman, Samarinda, East Kalimantan, Indonesia

²Ecology and Conservation Center for Tropical Studies (ECOSITROP), Samarinda, East Kalimantan, Indonesia

³Department of Forest and Wildlife Ecology and The Nelson Institute for Environmental Studies, University of Wisconsin-Madison, Madison, Wisconsin, USA

Correspondence

Zuzana Buřivalová, Russell Laboratories, 1630 Linden Drive, Madison, Wisconsin, 53706, USA.

Email: burivalova@wisc.edu

Abstract

We reflect on the challenges researchers face when working in multi-national collaborations in conservation science, whereby the researchers' countries are unequal in terms of financial and institutional support or other factors that contribute to a power imbalance. Based on our personal experiences and challenges, we outline four key aspects of the research cycle that provide opportunities to build or strengthen more equitable research partnerships: defining the shared research agenda, obtaining funding, publication, and the connecting thread of effective communication. We give recommendations for both the visiting scientist and the local scientist hosting international collaborators, as well as for institutions involved in conservation science. We hope that our perspectives can help other conservation scientists achieve productive and mutually beneficial collaborations that can lead to positive conservation outcomes.

KEYWORDS

communication, conservation research sites, equitable research, guest and ghost authors, parachute science, power imbalance

1 | INTRODUCTION

The benefits that can come from doing conservation science abroad as well and from hosting foreign researchers are vast: broadening one's perception of the world, testing scientific hypotheses in new contexts, gaining inspiration for future research, learning novel techniques and methods, gaining prestige and access to further career opportunities, positively influencing conservation outcomes, to name a few examples. At the same time, the path towards such successes has many pitfalls and obstacles to overcome if both the visiting, foreign researcher and the host country researcher are to benefit. Too often, there is a preexisting power imbalance between the researchers' countries, in favour of the visiting researcher,

such as in terms of GDP, availability of national research funding, tradition of publishing in international peer-reviewed journals, academic institutional support, English as the first language, etc. (Pasgaard, Dalsgaard, Maruyama, Sandel, & Strange, 2015; Salager-Meyer, 2008). Further compounding the issue may be cultural differences, and different values that each society places on science and conservation (Coscieme et al., 2020). Such power imbalance and value difference often crystallizes in "parachute science", whereby the visiting scientists from a richer country "parachute" into a host country, where they only engage with local researchers to carry out fieldwork, excluding them from the remainder of the scientific process (Stefanoudis et al., 2021). Here, we discuss several crucial points in the academic research cycle that we have

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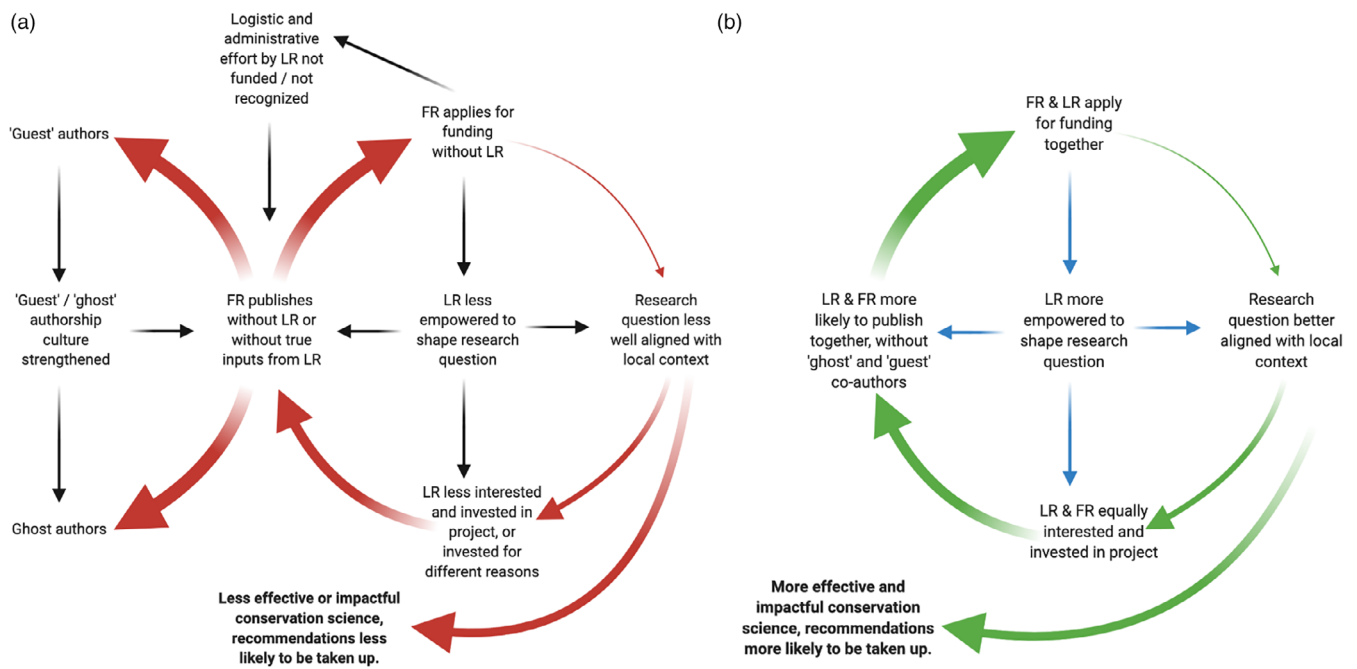


FIGURE 1 Building an effective research partnership which produces impactful conservation science may involve moving away from an unequitable cycle (a), to a self-reinforcing, positive, equitable relationship (b), between the foreign, visiting researchers (FR) and local, host country researchers (LR)

personally found helpful to focus on when striving to move away from inequitable to more equitable international partnerships (Figure 1).

Our combined experiences are from conservation and ecology research in Indonesia, Madagascar, and Gabon, and our perspectives are aimed for scientists taking part in an international research effort. The few publications that exist on this topic are addressed exclusively to the visiting scientists (Chapman et al., 2015; Stefanoudis et al., 2021). Here, we address both the visitor and the host country scientist. Additionally, we provide several suggestions for changes that scientists can champion at their institutions.

2 | SHARED, LONG-TERM RESEARCH AGENDA AND CONSERVATION IMPACT

Just like in any collaboration, the visiting and local scientist should have research interests in common. In an equitable partnership, the host country scientist should be free and able to shape the research question (Figure 1). Almost inevitably, the host country scientist knows the local context and conservation needs better, which enables them to make the research question more relevant, in turn likely leading to better conservation outcomes. This means that for the visiting researcher,

finding a local collaborator cannot be something to just “tick the box” required for administrative purposes. If the foreign researcher brings a new technique or instrument, for example, the local researcher should benefit from this in the long run, by using it in their own research agenda. In our experience, chances of finding a local researcher with mutual interests can be improved by giving a seminar or a workshop at host country universities or institutes. Alternatively, research related to conservation and ecology is often dependent on a particular study site, research station, or species-focused initiative, and a shared interest in them can also be a good basis for a sustained collaboration.

Researchers in countries where universities might not offer the option to have an individual web page can better communicate their research interests to potential foreign collaborators by creating individual academic websites. Even a brief website on a free platform can fulfil its purpose to communicate research interest, expertise, institutional affiliation, link to any publications, and contact details (Stefanoudis et al., 2021). Additionally, professional societies, such as the Association for Tropical Biology and Conservation and the Society for Conservation Biology, could offer “matchmaking” programs for junior scientists, for example, graduate students, with similar research interests from different countries, in addition their existing mentoring programs.

Funders in conservation science could encourage the process of starting equitable research partnerships by providing small grants to focus on finding conservation-relevant, mutually interesting questions, with a high level of built-in flexibility. New cross-cultural and international collaborations can benefit from smaller, logistically simple goals at first (e.g., writing this essay for us), which can help build a solid foundation for future, more ambitious projects.

3 | FUNDING

Once a shared research agenda is identified, the next fundamental point in the academic research cycle is funding. In our experience, it is rare to see foreign researcher apply for a grant together with a local research. Indeed, one of us once learned about the existence of an awarded funding for a project carried out with a foreign research partner only from the final publication's funding section. Too often, the local researcher is contacted only after the foreign researcher has obtained the funding to carry out a project in the local researcher's country (one of us has been guilty of this before). Why is this? In some cases, the foreign scientist starting to work in a new country might have to obtain funding first to travel to meet potential collaborators and scope out research questions. However, it is striking to us that even researchers with long-term research agendas in the countries we are familiar with do not often seek to apply for grants together with local researchers.

Barriers towards jointly applying for funding include (i) increased administrative burden when two institutions from two countries are included on a grant application, (ii) lack of institutional support for a host country researcher to apply (either as Principal Investigator or otherwise), (iii) lack of incentives or even restrictions for multi-national collaborations from funding agencies, but, perhaps most importantly, (iv) lack of communication about this topic altogether between the foreign and local researchers. We argue that not being involved in the grant application and not knowing the overall budget of the grant awarded puts the local researcher automatically in a position of less power, further exacerbating the pre-existing power imbalance of the two countries (Figure 1). We suggest that this might be one of the fundamental reasons why in an inequitable partnership, the local researcher might be less invested in the project, less able to shape the research question, ultimately making it less likely to be truly useful to conservation (Figure 1).

Our recommendation is for the foreign researchers to include local collaborators in the grant application process, and for the local researchers to directly ask to be involved in the grant writing and budget preparation, if

leading the grant application process is not possible. Whereas, we do not expect that governmental funding agencies change their funding model, philanthropists and nongovernmental organizations could encourage such joint writing process by specifying what proportion of the grant must be spent by the host country scientists.

4 | AUTHORSHIP

An important point in the academic lifecycle is publishing the research results. Deciding who gets to be a co-author on a publication, and for most journals also the order of authors, is often a thorny issue in our discipline in general (Logan, Bean, & Myers, 2017). Such tensions can naturally be amplified or surface in an international collaboration with an imbalance of powers, possibly exacerbated by the exclusion of the local researchers from the funding process (see above, and Figure 1). Common issues we have encountered include (i) the foreign researcher not including local researchers as co-authors where it would have been appropriate to include them, creating “ghost authors” (Logan et al., 2017); (ii) foreign researchers including local (and other foreign) researchers without them participating in the publication process (“guest” authors), and (iii) local researchers, particularly graduate students, not being first authors on any publications.

Excluding authors jeopardizes their future career opportunities, and a culture that tolerates “guest” authorship can ultimately enable “ghost” authorships (Figure 1). For example, the foreign researcher may feel, by having included a “guest” author from the host country, that the requirement (own, imposed by a journal or a national regulation) to include a local collaborator has been fulfilled, and so be less inclined to invest the mentoring efforts necessary to enable a local student to become first author. We emphasize that such “guest and ghost” authorships are certainly not limited to multi-national collaborations with power imbalance (Logan et al., 2017).

To address this issue, it is important for all parties to acknowledge that determining an appropriate author list for a publication is a skill in itself – it is not something that scientists know by default, regardless of their country. They learn it by observing more senior scientists, getting advice from their mentors, reading about authorship rules on journal websites, or attending seminars on this topic. Working in a new country or with new collaborators from other countries means having to openly communicate or even revisit our norms.

It is important to discuss authorship early and often, and certainly before the foreign researcher leaves back to their home country. Such discussion can start by each party outlining what authorship means to them

personally, and what the common norms at each person's institution are (Mills & Inouye, 2021). In some countries, researchers get monetary bonuses per publication. In others, tenure review committees specify the number of papers that need to be published for promotion. Graduate theses are commonly reliant on publications. Personal pride and sense of accomplishment, ability to talk to the media, power, agency to advocate for a conservation action, are all examples of motivation to author scientific publication (Mills & Inouye, 2021).

During the end-of-fieldwork discussions, it could be helpful to select a few target journals, and directly consult their criteria. Who of the researchers have already fulfilled which requirements, now, that fieldwork has been concluded? What are the "hidden" contributions, that the other team members have not directly witnessed (such as fundraising, administrative work around research permits, management of field crews and research sites, background research to understand the local context)? Who will be responsible for what next? It is also important to acknowledge that the situation may change in the future. During this process, "guest" authors' names may surface on both sides. It would be naïve to assume that, for example junior scientists from either country can exclude their respective guest authors, whom they might depend on for career prospects (ideally, guest authors should self-identify and withdraw from the authors' list themselves).

Importantly, the foreign researcher should not assume that the local researcher, (especially a student), is uninterested in being a co-author or main author if they had not directly asked for it. It is unreasonable to expect a local graduate student, for example, to ask a senior foreign professor if they can be a co-author (or a main author) on a publication. The local student might not have the access to mentoring that would empower them to ask and eventually become a first author on a publication, or it may not be culturally appropriate.

The foreign scientist is typically more motivated to mentor a student in their own lab than a local student far away, who has less or no direct accountability to the foreign researcher once fieldwork is finished. One way to resolve this is for the foreign scientist to hire students from countries where the research takes place. This can pose numerous challenges, such as language tests, Graduate Records Examinations (GRE) in the United States, which are in any case a questionable predictor of success in science (Moneta-Koehler, Brown, Petrie, Evans, & Chalkley, 2017), administrative requests to the local student's university, visa, and a financial burden associated with relocation. Grant making agencies and foundations may consider incentivizing foreign researchers to hire students into their labs from the countries where their research takes place by providing additional funding for

such students to cover administrative and relocation expenses, and potentially also English language courses. Once relocated, additional challenges exist for expatriates pursuing degrees or academic positions abroad, with conservation field research in their home country.

Some scholars may consider hiring students internationally a "brain drain." We would argue that it is important to consider whether the alternative is for a foreign scientist to use a local student for data collection, without appropriate mentoring and rewards, including the possibility to be a first author (Edejer, 1999). Finally, we also note that in some analyses of international collaboration, employing a graduate student from the host country in a foreign lab may no longer "count" as collaborating with the host country, if the expatriate does not retain an affiliation in their home country (Pasgaard et al., 2015; Stefanoudis et al., 2021).

5 | COMMUNICATION

Ultimately, finding the right collaborator, applying for funding together, and publishing together all hinge on effective communication. All partners should clearly discuss communication preferences, and be willing to try new methods. The COVID-19 pandemic has taught many researchers around the world how to better communicate without being in the same place. Many (but not all) universities in countries with previously poor access to the internet made rapid advances in connectivity due to the necessity of online learning (Witze et al., 2020), and virtual conferences may have increased the accessibility for more scientists, creating new opportunities for equitable international collaborations. For example, for one of us, the necessity of holding weekly lab meetings online instead of meeting in person meant that our lab maintained a weekly contact with a student scientist in Gabon, strengthening the mentoring and collaboration throughout the year.

6 | CONCLUSION

Funding agencies have the leverage to incentivize more balanced collaborations, such as by prioritizing applications with local researchers as co-investigators and principal investigators, providing additional funding for international students, and awarding small grants specifically aimed at starting equitable research partnerships. Universities can revise admission criteria to not exclude candidates from low and middle income countries, such as by not considering the GREs. Fundamentally, however, we believe that building an equitable, mutually beneficial, lasting, and satisfying partnership depends on the

will and intention of individual scientists: particularly, foreign researchers in danger of doing “parachute science” have to acknowledge the power imbalance in their favour, and whatever prejudice and bias comes with or before that, and host country researchers have to demand transparency and inclusion in the funding and publication process. Then, both parties together have to take active steps towards establishing effective communication, and support each other to work with and in spite of history and current institutional conditions.

7 | IN A NUTSHELL

1. Pick collaborators with overlapping research interests. Build trust and effective communication on small, question-finding projects first.
2. Apply for funding together. Funding agencies should incentivize equitable grants.
3. Discuss authorship early and often. Draw up a list of contributions to date from both sides, including “hidden” ones, such as logistics and research site management.

ACKNOWLEDGMENT

We thank Megan Sullivan and Saskia Dröge for helpful discussions.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION

Yaya Rayadin and Zuzana Buřivalová contributed equally to the design and writing of the manuscript.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

ETHICS STATEMENT

The authors confirm that this manuscript fulfils the ethical standard of the journal.

ORCID

Zuzana Buřivalová  <https://orcid.org/0000-0001-5730-7546>

REFERENCES

- Chapman, J. M., Algera, D., Dick, M., Hawkins, E. E., Lawrence, M. J., Lennox, R. J., ... Cooke, S. J. (2015). Being relevant: Practical guidance for early career researchers interested in solving conservation problems. *Global Ecology and Conservation*, 4, 334–348. <https://www.sciencedirect.com/science/article/pii/S2351989415000864>
- Coscieme, L., da Silva Hyldmo, H., Fernández-Llamazares, Á., Palomo, I., Mwampamba, T. H., Selomane, O., ... Valle, M. (2020). Multiple conceptualizations of nature are key to inclusivity and legitimacy in global environmental governance. *Environmental Science and Policy*, 104, 36–42. <https://doi.org/10.1016/j.envsci.2019.10.018>
- Edejer, T. T. T. (1999). North-south research partnerships: The ethics of carrying out research in developing countries. *British Medical Journal*, 319, 438–441.
- Logan, J. M., Bean, S. B., & Myers, A. E. (2017). Author contributions to ecological publications: What does it mean to be an author in modern ecological research? *PLoS One*, 12, 1–23. <https://doi.org/10.1371/journal.pone.0179956>
- Mills, D., & Inouye, K. (2021). Problematizing ‘predatory publishing’: A systematic review of factors shaping publishing motives, decisions, and experiences. *Learned Publishing*, 34, 89–104.
- Moneta-Koehler, L., Brown, A. M., Petrie, K. A., Evans, B. J., & Chalkley, R. (2017). The limitations of the GRE in predicting success in biomedical graduate school. *PLoS One*, 12, 1–17.
- Pasgaard, M., Dalsgaard, B., Maruyama, P. K., Sandel, B., & Strange, N. (2015). Geographical imbalances and divides in the scientific production of climate change knowledge. *Global Environmental Change*, 35, 279–288. <https://doi.org/10.1016/j.gloenvcha.2015.09.018>
- Salager-Meyer, F. (2008). Scientific publishing in developing countries: Challenges for the future. *Journal of English for Academic Purposes*, 7, 121–132.
- Stefanoudis, P. V., Licuanan, W. Y., Morrison, T. H., Talma, S., Veitayaki, J., & Woodall, L. C. (2021). Turning the tide of parachute science. *Current Biology*, 31, R184–R185. <https://doi.org/10.1016/j.cub.2021.01.029>
- Witze, A., Subbaraman, N., Viglione, G., Callaway, E., Mallapaty, S., Cyranoski, D., ... Gibney, E. (2020). Universities will never be the same after the coronavirus crisis. *Nature*, 582, 162–164.

How to cite this article: Rayadin, Y., & Buřivalová, Z. (2021). What does it take to have a mutually beneficial research collaboration across countries? *Conservation Science and Practice*, e528. <https://doi.org/10.1111/csp2.528>