**Project Title**

Establishing a national stakeholder network and collating empirical data to produce distribution maps for a controversial species, the SMARTDEER project.

**Researcher Profile**

Mid-forties male Italian researcher. At the time of the project I was assistant professor of Wildlife Biology at University College Dublin, Ireland. I am a behavioural ecologist by training, with 20+ years experience dealing with ecology and behaviour of wildlife species in 5 continents, particularly (but not limited to) wild ungulates. Despite the fact I had previous experience in large scale monitoring programs, the project described here was the first national-level project led in Ireland since I relocated there.

**Context**

At the time of the start of the *SMARTDEER* project, neither the up-to-date precise distribution nor the population density of the four species of deer (sika deer, fallow deer, red deer, muntjac) was currently known in Ireland, and no national coordination in the collection of deer data existed. The *SMARTDEER* project - funded by the Department of Agriculture, Food and the Marine (DAFM) - was led by myself in collaboration with other researchers based at University College Dublin (UCD) and aimed at producing up-to-date distribution maps of deer species across the nation. This was achieved by collating current and historical deer data provided by a large and heterogeneous group of stakeholders in combination with newly introduced digital tools such as a dedicated smartphone application able to capture deer sightings. The project was meant to be developed to work with stakeholders and for stakeholders, and was carried out during the concurrent Covid-19 pandemic, with clear limitations in the ability to meet the various stakeholders in person. It is important to note that the *SMARTDEER* project was not the first of its kind in Ireland, and previous research programs attempted to achieve similar results with quite limited success: therefore, the *SMARTDEER* project was met with general public skepticism, specifically among stakeholders.

**Problems encountered**

Let’s begin with a very positive note. As a foreign national, it may be a perception that I was met by stakeholders with suspicion or entirely disregarded. Quite the opposite, indeed, because I was seen as an outsider with long-term experience in deer ecology research and, at the same time, approached the stakeholders with no apparent conflict of interest. As a foreign national, however, I underestimated one of the most complex stakeholders’ landscapes I have ever encountered in my career to date, despite my previous experience with stakeholders in Italy, Canada, U.S.A., and Germany. It took me a significant amount of time and effort to understand all the parties involved and their stance on deer management, the different connections (if any) between the different stakeholders, the different agenda and rationale behind their involvement in deer monitoring and management. Eventually, I identified a network made by 143 individual contacts, some of them leading a small ecological consultancy firm (<5 people), others responsible for leading more than 3000 hunters, with significant ramifications across the nation and on our project. The stakeholders included in that list were a vital component of our project who could provide the historical and current deer data they have been collecting at different spatio-temporal scales but never collated together into a single national database which were essential for us to produce our distribution mapping.

Deer stakeholders in Ireland can be divided in two broad categories: non-governmental and government. Non-governmental stakeholders have a very different view on deer management, some of them (farmers, foresters) see them as a pest due to economic losses incurred (e.g. competition for livestock grazing; potential role on bovine Tuberculosis spread; damage to forest plantations; traffic collisions and general human safetyrisk ); some others perceive deer as a resource (e.g. hunters, hikers, tourism sector, general public).

This landscape offered a new level of complexity compared to a project on a species of conservation concern, where there would be consensus among stakeholders about the need to protect them. On the other hand, deer are a controversial species because of the potential human-wildlife conflicts with several of the stakeholders involved. Government stakeholders were regional and national managers from different agencies with some role in deer management and monitoring, although the situation here was quite complicated because no agency has been tasked with sole responsibility of deer monitoring and management thus far, leading to many inter-stakeholder conflicts. The different agencies have been partially monitoring deer populations in the land under their jurisdiction, without any across-agency coordination.

All the stakeholders mentioned above had to be contacted individually via webinars due to the Covid-19 pandemic and other related issues to arrange a national workshop for all relevant stakeholders to discuss deer management in Ireland together . This required a herculean effort for a small team of researchers, primarily aimed at convincing stakeholders about the genuine intent of the project with no hidden agenda. Over the course of a two year project grant, almost 18 months of the project were thus directed at coordinating and contacting stakeholders individually to convince them of our true agenda (scientific, unbiased studies to understand deer distribution).

**Costs and impacts**

Despite a significantly high quality and quantity of deer data collected by contacting every single stakeholder individually and in many cases, repeatedly, we could have collated more. We were indeed aware of several databases that could be included in our national deer library but that some stakeholders decided not to share due to (i) lack of trust of the project, (ii) fear about the potential misuse of the data. Our project also introduced newly developed digital tools (e.g. smartphone application) to guarantee a nationally-coordinated steady flow of deer information. The complete lack of consensus between the several stakeholders led to an heterogeneous use of our smartphone app, promoted by some of the stakeholders but discouraged by some others.

**Lessons for practitioners**

When dealing with such a complicated and heterogeneous landscapes, the following should be considered even before starting the actual project, therefore during its conception phase:

1- We recommend that for projects involving a controversial species and heterogeneous stakeholder network it would be useful to include a social scientist and/or social media expert in your team in order to ensure that communication of the project aims and agenda is constant and consistent.

2- Use the above expertise to interact with national TVs and Radios, newspapers, and social media and run multiple nationally-coordinated campaigns able to deliver short and clear messages about the goal and the benefit of the project. Such messages should be dedicated to the different stakeholders individually to highlight why they should engage in such a national project. Most importantly, a first round of interactions with stakeholders at the beginning of the project would identify stakeholders’ fears on the potential consequences of the national project, and these should be addressed by clear media messages that can be understood by the broader audience across different cultural levels.

Vital to the success of a national project aimed at leading and putting together several stakeholders is the endorsement of such a project by major government agencies involved, since day 1. Government agencies should sit at the same table, take stakeholders’ feedback onboard, and coordinate to take a leading role in deer management, supported by academic institutions able to provide empirical evidence and stir management and conservation decisions accordingly. This did not happen in *SMARTDEER*, and at the time of writing there is still not a single government agency responsible for the monitoring and management of deer at the national level.