



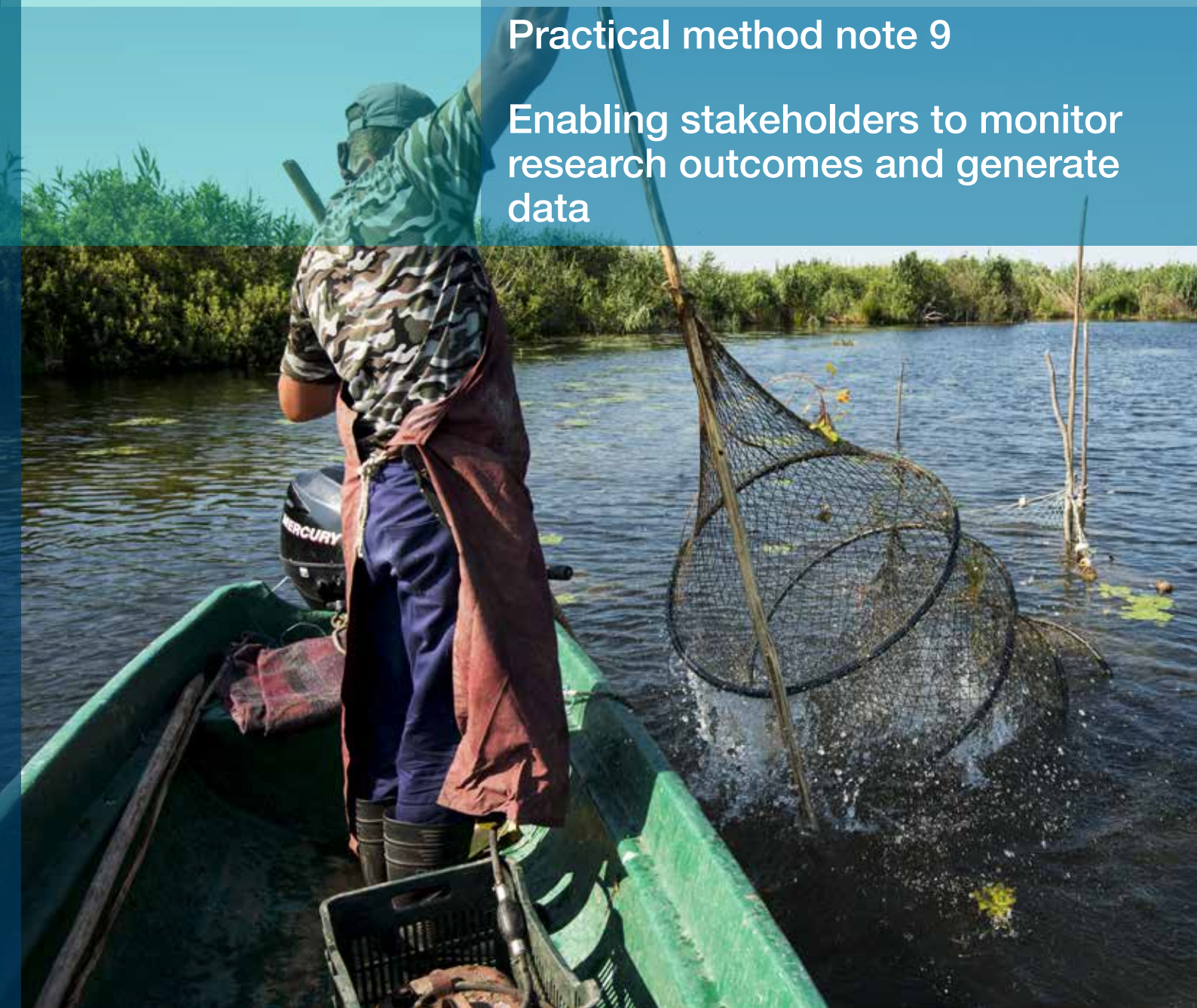
biodiversa

The ERA-NET promoting European research on biodiversity

Annex 1

Practical method note 9

Enabling stakeholders to monitor
research outcomes and generate
data





ENABLING STAKEHOLDERS TO MONITOR RESEARCH OUTCOMES AND GENERATE DATA

It is possible to work with stakeholders to monitor progress towards jointly agreed project outcomes, typically using indicators. Feedback from stakeholders can be extremely valuable in helping you achieve project outcomes that have a lasting legacy. It may also be possible for stakeholders to use indicators to provide

data for research – which is often referred to as ‘citizen science’. Citizen science for biodiversity research most commonly focuses on easily-identifiable indicator species, such as bird or butterfly counts. Methods of recording data typically include recording sheets, web-based data-bases and mobile phone applications.

WHY MONITOR RESEARCH OUTCOMES WITH STAKEHOLDERS?

Project funders increasingly expect researchers to monitor progress towards project outcomes at regular intervals, and to demonstrate that their work will leave a lasting legacy. By monitoring progress in this way it is possible to identify and correct problems early to ensure outcomes are achieved. If this is done in collaboration with the people who are likely to use the research, then it can be much more effective, providing the research team with constructive ideas on how to make outputs

more relevant and useful on an ongoing basis. By giving stakeholders ownership of research outcomes and providing them with tools to easily monitor progress after the end of the project; it may be possible to help secure the legacy of the research. Indicators are commonly used to monitor research outcomes and by developing indicators with stakeholders, it is possible to empower them to monitor progress themselves.

WHY GET STAKEHOLDERS TO GENERATE DATA?

Citizen science should not be seen as a cheap and easy method for generating data, as engaging effectively with those who may collect data typically takes significant time and effort on the part of the research team. It should not be seen as a substitute for traditional data collection methods, as it can be challenging to guarantee data quality and systematic coverage of sites or replication of treatments. However, it can be possible to include citizen science in the design of research to supplement

data collection, for example providing data for locations that could not otherwise have been included in the sampling strategy. It is also a great way of raising awareness of the research amongst stakeholder groups or members of the public, and engaging them in greater depth than might otherwise be possible. Participating in data collection can give volunteers new skills, new connections and an opportunity to make a difference to their local environment.

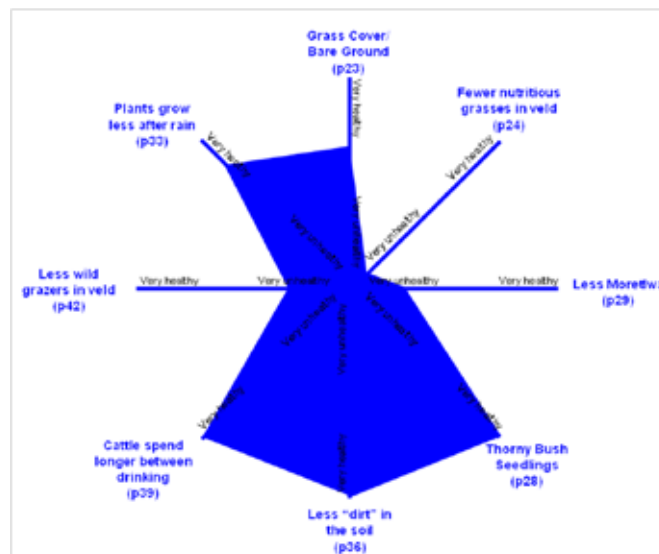
HOW TO MONITOR PROJECT OUTCOMES WITH STAKEHOLDERS

The following steps may be followed to engage stakeholders in monitoring research outcomes:

1. Identify stakeholders who are likely to be interested in the project outcomes (see stakeholder identification in [Part 3](#) of this *Handbook*).
2. Discuss and negotiate proposed project outcomes with stakeholders, adapting and adding outcomes where possible to ensure their needs and priorities are met.



3. Decide the scope of the monitoring which will be done with stakeholders. Consider whether there are particular project outcomes that are better suited to monitoring by non-experts or that are of particular interest and relevance to stakeholders, motivating them to get involved.
4. Identify indicators to represent project outcomes, that stakeholders can measure easily (e.g. indicator species, erosion features). Establish a current baseline, set target levels for each indicator or identify thresholds (e.g. ecological) that should not be crossed, so that data can be interpreted easily by stakeholders after the project has ended. Consider opportunities for technology to make it easier for people to submit data and that can make data entry and analysis efficient for the research team. However, also consider whether these technologies may exclude certain groups, and where necessary provide alternative methods for them.
5. Test and refine the use of indicators with stakeholders, ensuring they accurately represent intended project outcomes and can be used easily by all stakeholders.
6. Recruit a team of relevant stakeholders to collect indicator data.
7. Accept the data and provide feedback to participants so that they know their data has been received and how it is being used. This may be provided via an automated (and if possible tailored) response via a mobile phone application, via email, or in a regularly published newsletter.
8. Following analysis of indicator data, interpret findings and share results with participants. If possible, provide methods that can enable stakeholders to analyse and interpret data themselves easily after the project has ended (e.g. radar diagrams [see the figure below]).



The Radar Diagram designed for use by pastoralists in the Kalahari Desert, Botswana. Users measure each indicator qualitatively on a scale from very unhealthy to very healthy, and can refer to guidance about how to solve problems identified by the indicators (from Reed and Dougill!).

HOW TO UNDERTAKE CITIZEN SCIENCE²

Citizen science initiatives commonly follow these steps:

1. Decide if it is likely to be possible for non-experts to collect the sort of data required to address the research question(s), and whether citizen science is likely to complement the proposed research design and stakeholder engagement strategy.
2. Decide how involved stakeholders should be in the research. At one end of the spectrum, this may be simply providing data to achieve research goals in a research design set by researchers. At the other end of this spectrum, stakeholders may be involved in the development of the project, jointly setting research goals, contributing to the design of the research and providing guidance throughout the research as members of the project team.
3. Identify stakeholders (see stakeholder identification in [Part 2](#) of this *Handbook*) and develop an engagement strategy that will motivate their involvement.
4. Establish a project team and set goals for the research including outputs or 'impacts'. Depending on the approach decided (step 2), stakeholders may be involved in the team and jointly set goals with researchers.
5. Select easily measurable indicators that can be measured by stakeholders and develop standard and easy-to-follow methods and protocols for collecting and recording data. Consider opportunities for technology to make it easier for people to submit data and that can make data entry and analysis efficient for the researchers on the team. However, also consider whether these technologies may exclude certain groups, and where necessary provide alternative methods for them.
6. Test and refine the protocol with stakeholders to ensure it is easy to use and provides the data required.
7. Promote and publicise the project as widely as possible.
8. Accept data and provide feedback to participants so that they know their data has been received and how it is being used. This may be provided via an automated (and if possible tailored) response via a mobile phone application, via email, or in a regularly published newsletter.
9. Complete data analysis and interpretation of findings and share results with participants.



CASE STUDIES

EXPERIENCES FROM BIODIVERSITY RESEARCH

Park Rangers involved in a citizen science project in the Peak District National Park in England were involved in the data collection exercises and reported that it was a highly rewarding way of learning more about the environment in which they worked. The project benefited from the large amount of high quality data collected by people with knowledge and expertise about the local area and who had access to the environment being studied. Evening dissemination events were very popular with participants and helped maintain interest in the project.

SUGGESTED REFERENCES FOR ENABLING STAKEHOLDERS TO MONITOR RESEARCH OUTCOMES AND GENERATE DATA

- 1 REED, M.S., FRASER, E.D.G. and DOUGILL, A.J. 2006. An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological Economics*, 59, 406-418. Available at: <http://www.sciencedirect.com/science/article/pii/S0921800905005161> [Accessed 6 March 2013].
- 2 TWEDDLE, J.C., ROBINSON, L.D., POCOCK, M.J.O. and ROY, H.E. 2012. Guide to citizen science: developing, implementing and evaluating citizen science to study biodiversity and the environment in the UK. Natural History Museum and NERC Centre for Ecology & Hydrology for UK-EOF. Available at: <http://www.ceh.ac.uk/products/publications/documents/citizenscienceguide.pdf> [Accessed 6 March 2013].

Annex 1 of “*The BiodivERsA Stakeholder Engagement Handbook*. BiodivERsA, Paris (108 pp).
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The BiodivERsA Stakeholder Engagement Handbook is available online at <http://www.biodiversa.org/577>



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Cover photograph: Danube Delta fisherman Florin Moisa shaking weed off traditional fyke nets, Danube Delta, Romania, June 2013. By © Lundgren / Wild Wonders of Europe/ naturepl.com

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