MEERWISSEN

African-German Partners
for Ocean Knowledge

PLANNING AND CONDUCTING CO-DESIGN IN COLLABORATIVE MARINE RESEARCH PROJECTS - A GUIDANCE

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Preface

Since its inception in 2018, the initiative ***MeerWissen – African-German Partners for Ocean Knowledge*** has focussed on bridging the gap between scientific information and effective policymaking. Only with a sound basis of knowledge can decision-makers take the action needed to protect the health of our ocean and coasts for the benefit of future generations as much as for our own today. In line with the UN Ocean Decade, MeerWissen believes that collaborative research partnerships can play a transformative role to help turn the tide on ocean conservation and management to achieve SDG 14 by 2030.

Currently MeerWissen, which is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and facilitated by the *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ), is supporting twelve partnership projects in seven African coastal states. In the autumn of 2021, a new call was launched, offering further funding opportunities for new projects to increase the knowledge base, improve data availability and science-policy uptake.

At the heart of the initiative has always been a focus on "partnerships of equals". The latter is based on the idea of a co-design process ensuring that project partners are jointly setting priorities to achieve outcomes that truly meet local needs. In the past, MeerWissen had invited all successful applicants to a co-design workshop. While this approach was both helpful and highly engaging for projects, some reported requiring more time and resources for cooperatively developing both project and partnership while also engaging stakeholders. These experiences coincide with the calls for more emphasis on co-design and co-creation in collaborative, transformative research voiced in the context of the UN Ocean Decade. Therefore, next to its co-design workshop, MeerWissen decided to offer a funded co-design phase preceding the project's implementation. Such a co-design phase can take many forms, depending on each partnership's and each project's individual needs and status.

The co-design guidance was drafted for the purpose of inspiring and guiding all MeerWissen applicants along their endeavours of creating and planning new transdisciplinary research projects attuned to local needs and from a foundation of a strong partnership of equals. Informed by both a discussion paper on co-design elaborated within the MeerWissen community and by participants' inputs at a workshop on co-design held as part of an Ocean Lab of the Ocean Decade, the guidance was developed by research collaborators at the Leibniz Centre for Tropical Marine Research (ZMT) commissioned by the MeerWissen Secretariat. We hope you find helpful tips and insightful information within these pages.

Finally, we consider the guidelines a "living document" to be supplemented with the experiences of all successful applicants of the current third call for proposals. After these projects have completed their co-design phase, their insights, experiences, and lessons learned will be added to this guideline, in the hopes of capturing valuable knowledge for future marine science partnership projects and beyond.

The MeerWissen Secretariat

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Introduction

BACKGROUND: WHY CO-DESIGN?

The challenges and complexity posed by sweeping global, social and environmental changes and the need for sustainability call for research with new strategies and approaches. In this context, research questions should be guided by societal challenges and needs and thus need to be defined in interaction with civil society, governments and other stakeholders, to have a transformative impact on policy and society. This type of research has many names (such as transdisciplinarity, integrative research, or knowledge co-production). The common theme is to move away from 'business as usual' science, characterised by analysing a problem via a single academic discipline and the use of traditional academic metrics such as impact factor and number of citations to gauge outputs, and to move towards knowledge integration and societal impact. Co-design is an element of **transdisciplinarity** (crossing of disciplinary and academic boundaries, bridging science and society through integration of actors from multiple disciplines and beyond academia, joint goal-setting and development of integrated knowledge and theory). Here, we use the term **'co-design'**, defined as an "*iterative and collaborative process involving diverse types of expertise, knowledge and actors to produce context-specific knowledge*" (Norström et al. 2020:183). The co-design process is intended to be realized from the very beginning, as a leitmotif guiding the entire process including the planning of the project.

„The co-design phase for the MeerWissen projects has two dimensions: it aims to (1) build/support a partnership (of equals) among researchers for the implementation of a project, and (2) orient the project towards the needs of local actors by engaging them. Researchers and non-academic stakeholders jointly develop a „partnership project"."

*The co-design process itself is an **instrument of transformation.** Co-design does not only change the research projects envisioned but **it changes the people involved,** while inviting critical reflection of the role of science in society. Moser (2016)*

With the intention of linking research, sustainable development and development cooperation, an increasing number of funding programmes between the Global North and Global South and global initiatives such as the UN Decade of Ocean Science for Sustainable Development (Ocean Decade) are supporting transformative processes and placing emphasis on the elements of co-design. Motivations for co-design include the prospect that co-design leads to better, societally-relevant information and thus to improved policy decisions (e.g. by drawing on more diverse sources of knowledge and targeted, co-developed lines of inquiry) as well as more lasting impacts of a project, including durability of developed structures beyond the funding period of a single project. Co-design of research also aims to increase equity in the research process, avoiding "parachute" science and strengthening local ownership. Local stakeholders are involved and informed throughout a transparent process, which builds trust across stakeholder groups, leading to a sense of ownership of and ideally support for the outcome. Co-design thus aims to bridge science-society-policy gaps and to provide targeted and effective sustainability solutions.

*The co-design phase can be **surprisingly productive** and can involve active research, the production of peer-reviewed publications along with non-academic outputs.*

WHY THIS GUIDANCE?

Conducting co-designed research is not without challenges. Working across scientific disciplines, regions and societal groups requires new methods and concepts regarding communication, institutional arrangements and funding Co-design requires learning new skills that are outside the standard research toolkit, including identifying relevant stakeholders, considering equity issues, solving communication and language obstacles, and applying conflict resolution. Of specific relevance to this guidance is the often-encountered example of collaborative research projects involving researchers both from the Global North (often the funding source) and the Global South (research site host). In this context it is particularly important to consider ways of fairly distributing power and transparently addressing imbalances in capacities, resources and structures in order to increase practical relevance and sustain equitable partnerships. All in all, co-designed research will always be more time and resource intensive and may be more unpredictable than 'business as usual' science. The iterative and adaptive nature of co-designed research calls for structured process and clear roles of the actors involved.

*"**Parachute science** is the practice whereby international scientists, typically from higher-income countries, conduct field studies in another country, typically of lower income, and then complete the research in their home country without any further effective communication and engagement with others from that nation. It creates dependency on external expertise, does not address local research needs, and hinders local research efforts." Stefanoudis, Paris V., et al. (2021)*

DEFINITION: HOW WE UNDERSTAND AND SUPPORT CO-DESIGN

"During the co-design phase stakeholders and academic participants work in a coordinated, integrated way to best establish a common understanding of the research goals, to identify the relevant disciplines, participants and the scientific integration steps necessary to approach the topic, and to agree on the roles the different groups have in advancing towards the research" (Mauser et al. 2013)

MeerWissen supports co-design by funding a dedicated co-design phase. While the term co-design is often used analogously to co-creation and can comprise all three stages of a project (co-design, co-production, co-dissemination), in these guidance documents, we focus on the initial phase of a project or knowledge co-production process, *"in which researchers and non-academic partners jointly develop a research project and define research questions that meet their collective interests and needs"* (Moser 2016). At the same time, we call attention to the iterative and ongoing nature of the co-design process.

The MeerWissen Initiative is aiming to support a new kind of science that supports societal transformation. This is not your usual research project! Here, emphasis is placed on partnership and societal impact.

A co-design process aims to ensure that the views of all partners and relevant stakeholders are reflected in the project idea. This does not only help in building trust among partners and create a basis for a collaboration that is built on shared responsibility and ownership, it also increases the chances of the research being useful to all parties, linking to the political systems, fitting the local context and responding to real needs. With this collaborative approach, MeerWissen seeks to set new standards for research collaborations and knowledge exchange (in a sense of multi-directional transfer) in the field of marine sciences.

*A central objective of the MeerWissen initiative is to find solutions to societal problems and to support **partnerships of equals**, which means that "activities and measures are developed together by all partners, responsibilities are shared among African and German scientists in decision-making, project management and implementation, and the distribution of the budget reflects a partnership of equals."*

ELEMENTS AND OBJECTIVES OF YOUR CO-DESIGN PHASE - A GUIDE TO THE HANDOUTS

The co-design process should evolve over time and extend beyond the initial joint design phase of projects, to extend throughout the duration of the project. The guidance provided in parts 1-4 provides a starting point, providing a number of elements and objectives that can be considered for a successful co-design phase, from which appropriate ones should be selected according to project context. This guidance includes four parts that are structured around these elements:

A dedicated co-design phase kicks off with a joint development of research projects that are based on a **common agenda** and a **shared vision** (Part 1). It is critical to **engage stakeholders** early on and consider the who and how across the various project stages from co-design to implementation, co-production and co-dissemination (Part 2). The co-design phase should be used to build and support partnership of equals through effective **project management and communication** within the project team (Part 3). To maintain momentum beyond the end of the project and support impact of your project, it is critical to consider **sustainability** of project activities and outcomes in the co-design phase (Part 4). Though listed as four distinct areas of activity in **Table 1** (see Annex), the sequence is not chronological - all are iterative, ongoing and interwoven.

HOW TO PLAN YOUR CO-DESIGN PHASE

Table 1 (see Annex) provides a non-exhaustive list to help structure the co-design process. It may be helpful to think about who you will invite to join at what stages, or for which steps you would benefit from external support (e.g. a neutral facilitator, which is a common best-practices recommendation).

POINT OF DEPARTURE AND SUBSEQUENT ADJUSTMENTS: NAVIGATING AN ITERATIVE PROCESS.

A key challenge of co-design is that a project (pre-proposal) requires a convincing topic and scientific expertise - but also involves an iterative process to (re-)design the project to be problem-oriented and in line with their partners' expertise and stakeholders' interests. The starting point often are pre-existing project ideas or partnerships, which has advantages for the development of a common vision and trusted relationships among partners (Parts 1 and 2). While subsequent modifications are part of the iterative co-design process, you should be realistic about how much room there really is to change the research focus or for novel problem framing - but also prepare to adjust in order to increase the relevance and applicability of your project based on stakeholder input. If the initiator(s) do(es) not have the right expertise for new research directions and problems identified through co-design, additional partners may need to be added. Thus, it is important to start early to find common ground in the joint vision/problem framing (Part 1). Researchers need to be open to adjust the pre-proposal accordingly and also step out of their comfort zone. You may need to consult internally and with the funding agency on how much you can deviate from the first project idea.

*A key challenge in co-designed projects is in the **establishment of new collaborations and partnerships**. Things are easier when we work in established structures, but starting from scratch is often needed and that's where the challenges are. Now and then it can be helpful to question established structures and check back with your partner: Are we really working in a fair and equitable partnership? Importantly, partners should be ready to accept that different objectives and priorities exist among them, and allow for these differences to persist.*

FURTHER READING

- Mauser W et al. 2013. Transdisciplinary global change research: the co-creation of knowledge for sustainability. Current Opinion in Environmental Sustainability 5(3-4):420-431.
- Moser SC. 2016. Can science on transformation transform science? Lessons from co-design. Current Opinion in Environmental Sustainability 20:106-115.
- Norström AV et al. 2020. Principles for knowledge co-production in sustainability research. Nature Sustainability 3:182-190.
- Stefanoudis, Paris V., et al. "Turning the tide of parachute science." Current Biology 31.4 (2021): R184-R185

Other toolkits and guidebooks recommended for further reading

- Repository by i2S (Integration and Implementation Science) https://i2s.anu.edu.au/resources
- td-net toolbox "Methods and tools for co-producing knowledge" https://naturalsciences.ch/co-producing-knowledge-explained/methods/td-net_toolbox
- Bergmann M, T Jahn, T Knobloch, W Krohn, C Pohl, E Schramm. 2012. Methods for transdisciplinary research: a primer for practice. Frankfurt am Main: Campus.
- Moulaert F, D MacCallum, A Mehmood, A Hamdouch. 2013. International Handbook on Social Innovation: Collective Action, Social Learning and Transdisciplinary Research. Cheltenham: Edward Elgar Publishing Ltd.
- Young JC, AD Watt, S Van den Hove, SPIRAL project team. 2013. Effective Interfaces Between Science, Policy and Society: The SPIRAL Project Handbook.

***The four-step approach developed by Future Earth Coasts – Our Coastal Futures** …aims to engage stakeholders for joint problem definition, goal setting and strategy development. A key point of this approach is the establishment of a reliable partnership among stakeholders, a mandate to act (and an institutional framework for doing so), and joint definition of targets. This strategy for co-design and co-production involves scientists, regional decision makers, the private sector, non-government organizations as well as local and Indigenous knowledge-holders. Further reading: https://www.futureearthcoasts.org/our-coastal-futures/*

Part 1: Joint vision and common understanding

"A vision is a positive mental image of the future… A shared vision can be developed through a group exercise that encourages people to think broadly and idealistically about the project outcomes." (Thom, 1997)

DEFINITION AND MEANING

Developing a joint vision for a research project forms the initial step in a co-design process, and leads to a co-developed project proposal tailored to societal needs and with a scientifically innovative conceptual/theoretical approach. The vision must include the realm of society and policy in order for the project to be impactful and sustainable, and starts with transparent exchange of views and capacities, as well as knowns and unknowns. Elements include:

Project goals | relevance of the topic | potential benefits of project outcomes (to whom) | understanding of the system | priority knowledge gaps to be assessed | formulation of deliverables | potential of the project for societal transformation and sustainability

WHY IS IT IMPORTANT?

A joint vision pulls together a team to achieve a common goal. Projects require members to work together and bring diverse strengths and backgrounds to bear. However, each team member has their own view of a system, their own motivations, agendas, and opinions that can render a shared understanding of processes and desired outcomes elusive. These differences can slow down decisions and lead to conflict and misunderstandings during the project. Setting your agenda together (i.e., determining research questions, approaches, and methods jointly) is the prerequisite for more equity in cooperation, mutual trust, and shared ownership.

HOW TO

STEP 1: DEVELOP A (ROUGH) PROJECT IDEA

Begin by agreeing on a concrete societal problem and explore it together. Brainstorm what the different academic project partners could contribute to the project and identify other relevant actors outside the starting group. Work on trust and rapport and establish clear communication (Discussion paper 3).

TOOLS:

- Give-and-Take-Matrix defines what partners can offer, and expect from, each other. It can also be used in teams
- Venn Diagram tool is suited for a first workshop of a joint project to get to know each other and to identify topics for knowledge co-production
- COLLAB is an interdisciplinary icebreaker game to stimulate discussion and reflection, and can be played in real life or virtually to build understanding within interdisciplinary teams

STEP 2: ANALYSE THE FRAMEWORK CONDITIONS WHERE THE RESEARCH TAKES PLACE

A critical step in project co-design is to analyse the circumstances and framework conditions in which the research takes place (i.e., to "contextualise" the project). It ensures that the joint vision resonates with national and local realities. This means analysing political, societal, economic, scientific, developmental, environmental, legal, and other processes and projects that are relevant to the problem and the research project.

Brainstorming questions:

- *How is the current or historical context relevant to project planning?*
- *How does the research topic intersect the social, cultural, political, economic, ecological and technical interests, needs, and situation where the research takes place?*

TOOLS:

- Broad document review: from scientific literature to national development objectives
- Brainstorming or a World Café to share knowledge and ideas with partners and identify trends and factors influencing the context of the project
- Appreciative inquiry can be used to clarify, develop and integrate different visions about joint endeavors
- Participant observation / active participation to experience day-to-day realities and practices
- SWOT analysis: Strengths, weaknesses, opportunities, threats

STEP 3: COLLABORATIVELY DEFINE A POSITIVE JOINT VISION FOR THE PROJECT

Transparently synthesize knowledge, share opinions, and develop a shared vision and shared goals that are acceptable for the partnership. Start by finding commonalities, based on what the project is about and not just based on what the project requires, given the context analyzed in the previous step. Explore the research issue together by elicitation (e.g. brainstorming), and experiential learning elements (e.g., field trips, site visits). Define together the potential of the project for societal transformation and sustainability. Reflect whether all those affected by the research have been considered or had a say in the project vision. Iteratively refine the vision.

TOOLS:

- Produce a "Vision Map" or an ideal timeline.
- Individually brainstorm and write down everything that comes to mind about a positive vision for the research project. Then share and discuss.
- Collaboratively draw a systems model, e.g., this TED talk.
  - As a next step, use the system model to identify how you think the project can influence or transform the system; look for leverage points
- Appreciative inquiry to clarify, develop and integrate different visions about joint endeavors
- Outcome spaces framework to reflect on, and classify participants' preferred outcomes
- Design Thinking is a five-step methodology that is usually professionally facilitated. It is most effective before a problem has been defined. The output is e.g. a strategy or concept that addresses a specific problem linked to explicit needs of stakeholders.
- Theory of Change provides a description and explanation of how and why a project is expected to lead or contribute to a process of change. It is a powerful tool for project planning when defining the purpose, outputs, outcome and impact.
- Soft systems methodology is used to create shared understandings of a problem situation in a heterogeneous group

Tip 1: Recognize that a common vision requires work and dedicated time to shape it
Make time for multiple and iterative interventions within the co-design of a project. There may need to be multiple events/ instances where different voices can be given space to communicate their values and needs for the project. An inclusive process allows those with limited possibilities (e.g. other responsibilities such as work or child care duties) to participate flexibly, if necessary, not limited to just one-shot workshop.

Tip 2: Embrace diversity
Projects that encompass a range of diverse stakeholders mean that differences occur and need to be bridged. Many of the challenges to finding a common vision stem from diversity, which can also be a source of conflict and misunderstanding that needs to be actively managed (see Part 3). Our own backgrounds and mental models are so varied and yet so entrenched that it may be easy to miss that we are talking past each other. This diversity should also be seen as a source of strength (e.g. representation of gender, age, and different types of knowledge), and diverging interests and perspectives can also be a motor for your project (such as gaining a better understanding, finding better solutions).

Tip 3: If things are not working, stay flexible and open to adjustments - and keep listening to each other
When necessary, work towards visions that do not actively conflict with one another - total agreement is not always possible, find solutions or agree to disagree. A win-win is not always possible but try to minimize one party losing. Don't avoid or bury conflict - but don't get caught up in unproductive conflict. The aim is not to get everyone to arrive at the same viewpoint, but to allow for different perspectives to persist and be respected. Consider involving a professional moderator or facilitator if necessary.

Tip 4: Involve early-career scientists

They bring energy, motivate everyone to explain clearly and simply, and can ask questions senior researchers may not think of or may not want to ask.

Tip 5: Communicate transparently to avoid misunderstandings or disappointments

Many of the tools suggested are based on an academic culture of debate and 'pure' rational discourse. This may not be appropriate or effective in all cultural contexts (for example where the self is defined in relation to others), or in the presence of certain power imbalances. By way of example, a meeting with equal numbers of women and men does not mean that women will speak and be heard equally at that meeting. Incorporate this awareness into process design, e.g., with focus group discussion groups and local, culturally embedded facilitators. Dedicate time to define rules for cooperation and process and for clear and open communication at the beginning (Part 3).

Tip 6: Reflect on your own role

When talking about "what we want" (Vision), try to reflect on who 'we' is. All partners should stay aware of their positionality (background, relation to the social and political context, privilege). Reflect how one's own role is contributing to long-term structures and relationships, to capacity building, and is not parachute or helicopter science. All partners should be aware of hierarchies and power structures, and how they impact relationships and information sharing, and handle them in a situationally appropriate way.

FURTHER READING

- Bammer G. 2008. Enhancing research collaborations: Three key management challenges. Research Policy 37(5):875-887.
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Part 2: Stakeholder Engagement

"Engaging stakeholders as early as possible in the research [...] can increase the likelihood that research meets the needs and priorities of stakeholders, who are in consequence more likely to feel ownership of research outcomes." (Durham et al, 2014)

DEFINITION AND MEANING

Partners describe those members of organizations (scientific and non-scientific) that apply for a research project, design it, and carry it out together. All partners hold responsibility for the project.

A **stakeholder** is anyone affected by or able to act on a particular issue regarding the research project. Their potential roles and engagement should be considered early on, particularly with regards to the necessary resources. Stakeholders may be engaged to varying degrees in the co-design process (e.g. to integrate perspectives and receive feedback, to develop a joint vision, or to identify other stakeholders).

***Example:** A marine research institute is working with a tech company and a fisheries department on developing digital tools for artisanal fisheries data collection and dissemination. They identify an association of fisherfolk cooperatives, an environmental NGO and a regional fisheries management organization as important additional (key) **stakeholders** to engage over the course of the project. They start to discuss internally and with these key stakeholders how they want to engage them.*

Stakeholder engagement is a continuous, iterative process throughout the project cycle. The level and timing of engagement needs to be tailored to the stakeholder and development stage of the project. While there is no blueprint, successful engagement activities benefit from a structured and logical approach that follows basic principles.

WHY IS IT IMPORTANT?

The co-design phase represents a good opportunity to understand and build connections with stakeholders. It is vital to develop a good understanding of the various stakeholders' interests, preferences, motivations, expertise, capacities, and needs. Proper engagement of stakeholders throughout co-design serves a range of goals. These include broadening the knowledge base and gaining a more holistic understanding (e.g., of different disciplines, non-academic knowledge, contextual knowledge), ensuring relevance of the research project to (local) stakeholders, increasing stakeholders' buy-in, acceptance and ownership, and thus project sustainability.

HOW TO

STEP 1: IDENTIFY ALL POTENTIAL STAKEHOLDERS

Begin by creating a list of specific potential stakeholders, then narrow it down by prioritizing stakeholders for engagement. Considering all affected parties and employing multiple tools will help not to overlook stakeholders.

?
- *Which stakeholders might have an interest in the generated data or results?*
- *Which stakeholders are affected by the project/research?*
- *Who are the relevant local and international actors in the field?*

TOOLS:

- Brainstorming: list as many stakeholders as possible and later estimate their relevance
- Snowball approach: based on team members' experience and networks start listing (and analysing) stakeholders. Ask the respective network who they think is a (relevant) stakeholder.
- Compare with past or similar projects: Look at cases from the same region or similar type of project and who played a key role.

STEP 2: UNDERSTAND STAKEHOLDERS, THEIR MOTIVATION, AND THEIR RELATIONSHIP TOWARDS THE PROJECT

Putting a project in the context of a stakeholder (why is this relevant to them?) and framing your communication accordingly can increase their interest in the research and project outcomes.

Try to look for opportunities and risks: Are there "deliberate roadblocks" (e.g. vested interests, political agendas, exclusionary practices)? How could you address them? What institutional support exists for the planned project, how can additional support be gained?

Stakeholder analysis can include, but is not limited to:

- *interests of all stakeholders who may impact or be impacted by the project,*
- *Power or influence,*
- *interrelationships between stakeholders*

Stakeholders are often mapped and prioritized into

- *key (e.g. "direct stakeholder", most relevant for the success of your project),*
- *primary (e.g. most affected)*
- *and secondary (e.g. indirectly affected) stakeholders*

TOOLS:

- Analyse the framework conditions of the country where the research takes place (See tools in Step 1 in Part 1)
- Feedback talks/interviews with stakeholders about your project (see below),
- (field) Visits to stakeholders
- Learn from intercultural trainings

STEP 3: ANALYSE OR MAP STAKEHOLDERS TO PRIORITIZE: WHO IS RELEVANT?

Prioritising stakeholders is more time- and resource-efficient and allows engagement to be more targeted.

- *What are stakeholders' motivations/ interests?*
- *What is the value proposition for different stakeholders: What do they realistically stand to gain, what are the risks?*
- *Who could ensure sustainability of the results?*

TOOLS:

- Stakeholder Map to visualise key, primary, and secondary stakeholders; can overlay a network map to visualise relationships
- A **power-interest matrix** or Influence-Interest matrix prioritises stakeholders with high power or high influence and high interest
- **Salience model** to prioritize stakeholders with high power, legitimacy, and urgency
- A Theory of Change provides a description and explanation of how and why a project is expected to lead or contribute to a process of change. It is a powerful tool to identify stakeholders as well as for engaging in a dialogue
- Actor constellation is a role-play for identifying the relevance of various involved actors for tackling a specific research question

STEP 4: EARLY STAKEHOLDER ENGAGEMENT DURING CO-DESIGN

Early stakeholder engagement is beneficial. Early stakeholder engagement is beneficial. Involving stakeholders in the process of finding a common vision will strengthen the collaboration among and with stakeholders. Early engagement increases ownership, serves organizational objectives, and addresses concrete questions and challenges. The project offers tangible benefits to different stakeholders. Communicating these benefits and knowing stakeholders' interest, requires some analysis prior to engagement.

Ask stakeholders for feedback on your project

- *What do you like about the project, what interests you? What do you expect?*
- *What do you miss? Which gap should it focus on?*
- *What has been done so far? What worked well, what did not work?*
- *What is your relationship with the other stakeholders?*
- *How would you like to be involved? What can you contribute?*

TOOLS:

Dedicated stakeholder workshop or Multi-stakeholder discussion groups to ask for feedback or to foster collective brainstorming

- The Functional-dynamic stakeholder involvement is an approach to specify stakeholder involvement
- Outcome spaces framework provides a structure to reflect on, and classify participants' preferred outcomes
- Give-and-Take-Matrix defines what projects can offer, and expect from, each other. It can also be used with stakeholders.
- Appreciative inquiry can be used to clarify, develop, and integrate different visions about joint endeavors.

STEP 5: PLAN FOR STAKEHOLDER ENGAGEMENT DURING PROJECT IMPLEMENTATION

The strategic selection and use of adequate tools is key to successful stakeholder engagement. A stakeholder engagement strategy for your project sums up the results of your stakeholder analysis by describing and prioritising your stakeholders (who?), as well as identifying adequate tools (how?) and times for engagement (when?). This document does not need to be elaborate, but overarching aspects can be addressed, e.g. how to ensure stakeholder input is not ignored but used. Aim for inclusivity, pursuing equity, respect, and ethics (e.g. principle of prior informed consent), but be mindful of limited capacity and remain realistic. Do not overpromise, or establish forms for engagement if they are not used. Be transparent: Why do you want to engage stakeholders, who and what for? What are potential risks for stakeholders?

- *How will you engage which stakeholders over the different stages of your project and when?*
- *How could they be incentivised to contribute?*
- *What can they contribute, and what implications does their involvement have?*
- *When will they be involved in the project?*

Examples of stakeholder-oriented engagement tools

- ***Government:*** *e.g. consulting services, scientific advisory boards or reports, science-policy events, roundtables, policy briefs,*
- ***Businesses:*** *e.g. industry workshops, conferences, contract research, joint publications and graduates, design thinking*
- ***Practice****: e.g. surveys, interviews, expert dialogues, workshops*
- ***Civil society:*** *e.g. public events, citizen science, citizen dialogues/forums, agenda processes, web-based and social media, exhibitions*

Choose engagement tools, taking into account:

- the specifics of the project and available resources,
- preferences and abilities of the stakeholders,
- the timing and stages of the project (design, implementation, dissemination, and post-project).
- the level of envisioned engagement (collaboration, involving, consulting, informing) and frequency based on your stakeholder analysis.

TOOLS:

- Discuss stakeholder engagement with your partners and key stakeholders and develop a stakeholder engagement strategy

Tip 1: Build trust and use appreciative communication: As trust is a central element in engaging stakeholders, a good approach is to work through established and trusted networks and contacts to establish rapport. However, be mindful that this "snowball" approach may fail to identify potentially relevant stakeholders and may tap into pre-existing tensions. Building trust through communication is a solid approach, if the following aspects are considered: Aim for respectful, open, stakeholder-targeted and -adapted, solution-oriented and clear communication; be transparent (e.g. about your project goals) and communicate regularly with stakeholders; and clarify meanings of terms and language.

- *How can the results/products be effectively communicated to different stakeholders?*
- *How can the design of the project now influence the use of results/products in other sectors incl. in policy-making?*
- *What type of information would be relevant for policy-makers? How can the project design consider the policy impact?*

Tip 2: Manage conflicts: There are likely significant differences in backgrounds, objectives, and priorities of stakeholders and partners, and it is vital to accept these differences and allow them to persist. Conflicts can even be beneficial. It may be helpful to view conflict as a healthy process to find common ground. Conflict analysis and an early, non-coercive, and balanced conflict management often produce solutions acceptable to all parties involved. This would involve tailored individual communication with subgroups rather than open fora where voices may be suppressed or opinions biased. External moderation or mediation can be extremely helpful, for example in co-design workshops or in dealing with conflict-prone situations. Open, continuous communication and a transparent, fair, and balanced stakeholder engagement process that assigns clear responsibilities can help avoid potential conflicts. Importantly, scientists can be perceived as stakeholders with an agenda instead of as impartial, and this should be kept in mind when interacting with other stakeholders. Be aware that extensive consultation of stakeholders can raise expectations, which might also lead to conflict.

Tip 3: Factor in resources for stakeholder engagement: Stakeholder engagement is resource-intensive, which should not be underestimated. Plan in adequate time, personnel, and resources; possibly identify potential additional funding sources for engagement.

MeerWissen places focus on policy uptake, meaning transfer of results for policy and management. Here are some considerations on how to address uptake of project results already in the co-design process:

- *Discuss dissemination of results to stakeholders beyond academic publications.*
- *Adequately acknowledge contributions of stakeholders, e.g. in acknowledgements or by considering co-authorship to non-academic local partners if they have contributed to research*
- *Plan for translation into local languages or community-relevant interpretation as integral parts of the project.*

Tip 4: Be humble and reflect on the positions of you and your stakeholders: Avoid viewing communities as homogenous - identify and account for subgroups, factions and power dynamics among stakeholder groups. Consider consequences of empowering particular stakeholders in stakeholder mapping and engagements, or of failing to do so. Open possible avenues for stakeholder engagement but leave decision on engagement up to stakeholders (e.g. speaking up/exposure may be dangerous in local context - not necessarily apparent to outsiders).

Tip 5: Evaluate and repeat: Stakeholder analysis should be an ongoing process updated throughout the project's duration together with the stakeholders already included. This may also tell you how stakeholders change over time, or how needs/interests may be changing.

- *Who am I in this research context?*
- *How am I positioning myself (ourselves) in this research and in this partnership?*
- *What could be unintended negative consequences?*

FURTHER READING

- Durham E., Baker H., Smith M., Moore E. & Morgan V. (2014). The BiodivERsA Stakeholder Engagement Handbook. BiodivERsA, Paris (108 pp).
- Fedder, B. (2017) Engaging stakeholders within research projects in partner countries A Guidance for the Leibniz Centre for Tropical Marine Research (ZMT)
- Glaser, M., Baitoningsih, W., Ferse, S. C., Neil, M., & Deswandi, R. (2010). Whose sustainability? Top–down participation and emergent rules in marine protected area management in Indonesia. Marine Policy, 34(6), 1215-1225.
- ZMT Office for Knowledge Exchange Info sheet: potential tools for engaging stakeholders. Leibniz Centre for Tropical Marine Research (ZMT)
- Research Fairness Initiative (RFI) Reporting Guides https://rfi.cohred.org/rfi-guides/

Part 3: Project and partnership management

"Partnerships with respect for the interests and limitations of other partners last longer, work more efficiently, and create more resilience to overcome inevitable partnership stress productively." Research Fairness Initiative (RFI) Reporting Guide (2020)

DEFINITION AND MEANING

The co-design phase offers a dedicated time for exploring and agreeing on how you want to work together in this project and in this partnership. This includes coming to an understanding of your partnership, fostering equity through distributing responsibilities and sharing in decision-making, supporting team- and trust building and joint learning. This requires effective and open communication: finding a common language and fostering an appreciative rapport.

A real challenge for project leads and coordinator(s):

How can you create and maintain a project environment that allows for creativity and autonomy, yet assures focus and maintains accountability to those who have a stake in the project?

The answer is effective project management and appreciative communication. Taking a structured and strategic approach to managing projects doesn't inhibit but nurtures creativity.

WHY IS IT IMPORTANT?

Clear communication and effective management leads to successful projects, as it keeps team members motivated and guides their work. Defining the "how" of your partnership breaks down processes, tasks, and responsibilities clearly, while giving team members space to be equally heard. This increases productivity, creativity, and team success.

Important aspects for successful partnerships include:

- *establishment of a cooperation platform*
- *definition of process standards (terms of engagement)*
- *formulation of goals and milestones*
- *defining rules for conflict resolution*
- *considering different interests and expectations*
- *Trust-building*
- *periodic review of experiences and acknowledging successes achieved jointly*

Adapted from GIZ (2015)

HOW TO

STEP 1: TRUST- AND TEAM-BUILDING

Creating trust between partners with different backgrounds requires time and patience but is the foundation for well-functioning partnerships. This also means to put yourself in another's place, to be mindful of biases and to create an environment that stimulates honesty and amity. Getting to know your partners also means finding a common language by becoming familiar with disciplinary, practice-specific jargon, defining key terms so you are on the same page, and overcoming language barriers. Cultivate your relationships by getting to know each other personally outside of the project roles. Try to integrate elements for team-building early on and every now and then.

- Schedule group 'down time' through storytelling, games, expressive arts, activities such as role play, drawing, or excursions.

STEP 2: SCHEDULE TIME TO TALK ABOUT PROJECT AND PARTNERSHIP MANAGEMENT

This includes cooperation, roles, and responsibilities, decision-making, communication and expectations. It is helpful to meet in person and to start discussions about the division of responsibilities early. Also, express expectations and your commitment to the partnership either verbally or write them down.

STEP 3 IDENTIFY ROLES AND RESPONSIBILITIES IN YOUR PARTNERSHIP

Talk about strengths, obligations, and competencies of each of the team members. List responsibilities, which include both more general responsibilities that you want to agree to as well as specific tasks in your project. Scientific and administrative tasks should be shared responsibilities. This means, all team members in this partnership should be aware of administrative obligations and contribute to them (updating work plan, writing reports to funding agency, taking minutes, etc.), sharing the burden of often time-consuming but obligatory tasks. Recognise and consider unequal capacities (e.g. negotiating contracts, in research or financial management) between partners and discuss appropriate corrective measures if possible.

Let us meet to discuss:

- *How do we want to work and communicate?*
- *What can you offer to this partnership?*
- *What do you expect from it?*
- *What is motivating to you?*
- *What are tasks that you like?*
- *What do you find challenging about working with others?*
- *What do you expect from us as team members? What from the project lead?*
- *What are common responsibilities that we want to agree to?*

General responsibilities of team members

- *participate actively in (all) meetings*
- *take notes and contribute to meeting minutes and reports*
- *prepare input for team meetings*
- *serve as spokesperson for the project*
- *share information to support members' work*

General responsibilities of the coordinator(s) may include

- *schedule and chair team meetings, facilitate discussions*
- *assure team stays focused on stated objectives*
- *prepare materials for team meetings*
- *take meeting notes and prepare minutes*
- *collect and share information to support members' work*
- *Prepare reports and other documents as appropriate.*
- *serving as liaison between funding agency and team*

Examples of specific responsibilities in your project

- *prepare a first draft of a stakeholder map*

...

STEP 4: EXCHANGE ABOUT COMMUNICATION AND DECISION-MAKING

Talk about how you want to communicate and make decisions in your team. Also discuss administrative needs, hurdles, solutions, and accountability procedures. Define some general rules for communication and decision-making that allow for all partners to be heard and that are agreed by all.

STEP 5: COMPARE, LISTEN, AND DISCUSS

It is not only about "who does what" - try to understand your partner's strengths, obligations, and preferences. Openly address (perceived) power imbalances. It is important to be aware of such differences and imbalances and discuss them if you can.

- *How do you prefer a new assignment be given to you (big picture or details? are deadlines helpful)?*
- *When communicating with others, what do you need more of?*
- *How do you prefer to be communicated with: instant message, email, phone call, or in person? What intervals do you prefer?*
- *Do we want to use specific software or project management tools?*
- *How should someone deliver constructive feedback to you?*
- *How do you want conflicts to be handled?*
- *What do we need to make everybody heard and come to consensus?*

STEP 6: COME TO AN AGREEMENT AND PUT IT INTO WRITING

It helps to put the agreements made from Steps 2 to 4 into writing to stipulate rules and procedures. Be as specific as possible when defining responsibilities.

- Agreements can be made in the form of Research Partnership Agreements, Terms of Reference or Memorandum of Understanding.

Exemplary rules for feedback

Giving Feedback:

- *speak about behaviour not personality*
- *speak with an attitude of collaboration*
- *speak with integrity, without disturbing the integrity of the other person*
- *phrase your contribution in neutral language*
- *give feedback without making reference to others*
- *state clearly that this is your personal opinion*

Receiving Feedback:

- *concentrate on listening; do not correct, explain or defend*
- *if you don't understand, ask for examples*
- *think about feedback before speaking about it*
- *say "thank you" when it's enough*

STEP 7: BOOST JOINT LEARNING IN YOUR PARTNERSHIP

Understand your partnership project (and its co-design) as a learning opportunity where capacities of all actors involved are fostered. Research partnerships are no longer (or should not be) regarded as one-way transfer of knowledge and technology from North to South! Commit to individual as well as institutional training and learning. Openly discuss the need for skills development Consider mutual evaluation (How can our work together improve?) as an explicit objective.

- Provide opportunities for mutual learning, e.g. build in reflective elements (feedback talks, post-meeting surveys, etc.).

Tip 1: Find a common language and foster appreciative communication

Jointly identify and work on your own set of rules for communication. Some examples that foster appreciative communication include:

- Be willing to listen and share
- Be proactive and deliberate about project management and communication
- Allow plenty of time for dialogue amongst all partners
- Continuously exchange about your expectations, give and provide feedback
- Be friendly, patient and understanding - be respectful to different voices and opinions (Don't assume: ask or confirm when not sure)
- Discuss and agree on definitions for key terms
- Try to use simple language terminology that avoids technical or local terms and is understandable by all partners and stakeholders.

Why is "good communication" so challenging?

- *What constitutes good communication may be different around the world. Starting new collaborations requires time and effort to understand each other and agree on ways for communication.*
- *Often there are hierarchies (power dynamics) among early career and more senior researchers, or - often less explicit - among partners from different backgrounds and institutions. This may lead to an overload of tasks, misunderstandings, or top-down communication.*
- *Each of us is different. We have different disciplinary focuses, speak different languages, have different goals/values, different starting points. We can easily be lost in translation and often there are practical or logistical barriers and asymmetries in communication, such as having different internet connection, time zones, or time and resources available.*
- *It can be challenging if there is a lack of communication between partners and if intentions are not clear (intransparency). Often there are asymmetries and different levels of interest, particularly across different stages of the research.*

Tip 2: Use project management and communication tools according to needs

Understanding the important aspects of a project usually does not require specific tools, but they can be very helpful. There is well-developed and even often high-quality freeware available e.g. Freedcamp, but also paid tools such as Trello or MS Teams. A mix of different communication tools (as opposed to only email) has proven useful. However, too many tools may overcomplicate communication - tailor to familiarity and preferences. Working in an online shared document can be helpful for different time zones and different languages, it also allows people who may be less comfortable talking to write instead. A central and easily accessible online repository for your documents can be helpful: A place to find the latest project proposal and budget, stakeholder map, or your communication strategy. Online meetings can be tiring and keeping people engaged can be challenging. There are strategies and tools (e.g. Mentimeter, Whiteboards) to strengthen virtual engagement. Share responsibilities during online meetings, try alternating meeting facilitation, ask everyone to switch on their camera (at least for a short small talk before the meeting), plan for sequences in your meetings where you do not have to talk about work, try to use icebreakers or energisers to make virtual meetings more engaging. Well-prepared meetings are usually short and sweet. Sharing an agenda before the meeting and preparing input to the different agenda points will help focus your discussions and leaving the meeting satisfied.

FURTHER READING

- Kennett, B. (2014). Planning and Managing Scientific Research: A Guide for the Beginning Researcher. ANU Press. www.jstor.org/stable/j.ctt6wp816. Accessed 19 Aug. 2021.
- A Guide for Transboundary Research Partnerships (3rd edition - 2018)
- Armenteras, D., 2021. Guidelines for healthy global scientific collaborations. Nat Ecol Evol 5, 1193–1194. https://doi.org/10.1038/s41559-021-01496-y
- GIZ GmbH (Ed.), 2015. Cooperation Management for Practitioners: Managing Social Change with Capacity WORKS. Springer Fachmedien Wiesbaden, Wiesbaden. https://doi.org/10.1007/978-3-658-07905-5

Part 4: Sustainability

"Many North-South partnerships are tied to individual research projects. The short-term nature of these partnerships often leads to loss of existing achievements, particularly in the South, with capacities left unused and researchers migrating away in search of other employment opportunities (brain drain). This need not necessarily happen if efforts are made early on, before a partnership ends […], to secure what has been achieved." KFPR (2018)

DEFINITION AND MEANING

Fostering sustainability with your project means maintaining momentum beyond the end of the project at site and with the partners. This includes a continuation of the partnership, implementation of post-project activities, such as further dissemination, monitoring, use and maintenance of equipment, but also to further foster the uptake of research results.

Sustainable research projects
Build long-lasting and equitable partnerships / foster mutual learning and enhance capacities / are aligned with local & national priorities / increase positive and reduce negative impacts of the project / share benefits, data and networks / secure outcomes and increase uptake and application of results

This part outlines aspects of sustainability that partners can factor into the co-design and into the implementation of a project.

WHY IS IT IMPORTANT?

To achieve a lasting, meaningful societal impact, the outcomes of co-designed projects - from partnerships to institutions, structures and information - need to be sustained, beyond the duration of the project.

HOW TO

STEP 1: INVEST IN THE CREATION OF WELL-WORKING AND EQUITABLE PARTNERSHIPS

This increases the likelihood of endurance beyond project cycles. It fosters trust, shared decision-making and ownership of the partnership by all partners and sets the agenda together. If in the best interest of the project, start looking for follow-up funding and further opportunities early.

STEP 2: SCHEDULE TIME TO TALK ABOUT PROJECT AND PARTNERSHIP MANAGEMENT

Agree that all partners adhere to best practice standards and guidelines in research collaborations. Most international ethics guidelines are widely read and accepted as best practice (e.g. see below by RFI, KFPE, IRD). Embed practices which ensure equity in the design; e.g. consider gender and generational equality by, for example, supporting the active participation of younger and older women.

TOOLS:

- Implement research ethics clearance/approval processes in your organisation
- Support Research Ethics Review processes and bodies
- Ensure fair contracting (see also COHRED Guidance and Self-Assessment Tool For Institutions)

STEP 3: ENSURE RELEVANCE TO STAKEHOLDERS AND COMMUNITIES IN WHICH RESEARCH IS DONE

Attune your project to local needs, demands and structures. Incorporate the knowledge and needs of local communities including marginalised groups such as indigenous communities, as well as explicit national or institutional research priorities. Aligning agendas allows partners and stakeholders to contribute to the project and at the same time continue their regular work, generating synergies and reciprocity without straining scarce resources and expertise. Generating interest in and ownership of the project with stakeholders can also help mobilise additional resources and incorporate the project within existing and longer-term structures.

> *"Local relevance of research is essential and should be determined in collaboration with local partners. Research that is not relevant in the location where it is undertaken imposes burdens without benefits". Article 1, Global Code Of Conduct For Research In Resource-Poor Settings*

STEP 4: ENCOURAGE SUSTAINABILITY AND EQUITY IN FINANCING (BUDGETS, PURCHASING AND MAINTENANCE)

Sustainable financing is key to ensure that structures and products developed within a project live on; in detail this can be pursued by:

4.1. All partners should ensure that all costs to deliver research outputs are covered in financial agreements of the partnership. A budget should not only cover 'direct' costs like consumables, equipment or facilities. Administration, research management, communication, infrastructure upkeep, transport, and other aspects produce costs. Inadequate provision for these overhead costs results in chronically under-funded research institutions.

4.2. Support local benefits by fair local hiring and sourcing. Local staff, facilities, consumables, or services maximise local benefits. Local businesses may also have sustained financial resources that can support ongoing activities, which can, in some cases, extend to opportunities for generating income for local stakeholders.

4.3. Build capacities to maintain equipment. Instead of heavily investing in equipment alone, which can be difficult to maintain or operate beyond the project, consider also establishing the necessary structures to maintain (e.g. by training technicians or mechanics, or assigning ownership and maintenance trainings to existing institutions). Targeted training of personnel together with ensuring structures exist to maintain infrastructure is also a good way of addressing "brain-drain" (trained personnel leaving their institution or relocating to a different country).

STEP 5: SHARE BENEFITS: ENSURE DATA, INFORMATION AND MATERIAL IS SHARED AND INTELLECTUAL PROPERTY IS RESPECTED

It is important to collectively strive for equity in your partnership by sharing emerging benefits (i.e. knowledge, evidence, innovations, commercial benefit, capacities, access to stakeholders and networks, publications and other products, or recognition) and making them accessible. Transparency and unrestricted flow of information is a prerequisite for your partnership and for creating outcomes that are relevant for society. This is particularly true when it comes to budgetary and financial matters. Identify and discuss expected and unexpected benefits of your project, create transparency in all financial matters and if necessary negotiate how to allocate benefits fairly.

- *What are our interest, fears and expectations when it comes to "sharing"?*
- *What are expected and unexpected benefits of this project?*
- *How is each partner benefiting fr<om this research?*
- *How do we distribute benefits amongst us?*

Agree in your project team about securing outcomes (institutionalisation) and how to share the associated responsibilities. These may include owning, maintaining and investing in the upkeep of final products (e.g. webpage, online database, webatlas etc.) and institutions (roundtables, working groups, advisory bodies, science-policy fora). This means identifying in-kind resources and staff not dependent on project funding that can remain engaged beyond the project cycle and commit institutional resources for a longer time.

- *What happens with results, infrastructure and equipment after the end of the project duration?*
- *How can we make sure that infrastructure and equipment (e.g. measuring devices and use of data) remain with and are maintained by the right partners at the end of the project duration?*

TOOLS:

- Use fair and mutually binding arrangements, you can use existing guidelines for fair research contracting as basis. Review compliance jointly and periodically.
- Come to a written agreement where equipment will remain and how it will be maintained.
- Consider Data Ownership Agreements and Material Transfer Agreements.
- Consider shared authorship and copyright as minimum requirement.
- If necessary, access the services of commercial intellectual property lawyers. Some give their time for free to 'deserving causes'.
- Incorporate the Principles for FAIR (Findable, Accessible, Interoperable, Reusable) data (Wilkinson et al. 2016) to also include collective benefit, authority to control, responsibility, and ethics, to ensure data guidelines address historical contexts and power differentials.
- When working with communities consider the "CARE Principles for Indigenous Data Governance", which were released in 2019 by the Global Indigenous Data Alliance (GIDA).
- Develop an internal complaint mechanism for sharing benefits

STEP 6: MINIMISE ADVERSE ENVIRONMENTAL, SOCIAL AND CULTURAL IMPACT

To foster sustainability, it is important to assess potential adverse impacts. This can be done by conducting a pre-research assessment. If you find adverse environmental, social and cultural impacts or the risks for unintended negative effects, create a plan to address these concerns without impairing the project in direction, quality or unreasonable increase in costs.

TOOLS:

- impact assessment or risk analysis (e.g. as part of project proposal)
- integrate practices to minimise environmental impact (e.g. paying for carbon offsetting when travelling)

STEP 7: SECURE OUTCOMES AND PLAN FOR DISSEMINATION AND UPTAKE

The project will co-develop and create benefits - plan for how to make them best accessible to science and society, co-disseminating and integrating that knowledge into different communities of practice.

7.1 Integrate outcomes into research networks and other projects

Establish connections with interested organisations and networks early. Organisations that are less likely to be subject to re-organisation according to short-term political agendas (e.g. regional organisations, line agencies) may find ways to secure outcomes and allow for upscaling. Are other institutions currently working on a similar topic and might be willing to share resources or expertise? Work with partners with long-lasting agendas. When selecting partners, consider extending beyond "usual" research partners (such as universities or research institutes) and involve institutions (and individuals) with longer-term agendas, ongoing commitments and reliable funding cycles and sources, such as line agencies or (local) NGOs.

7.2 Enhancing visibility and uptake

Consider dissemination early on, e.g. the goals, key recipients and actors, main messages, and ways of delivery, available resources, and potential (data/information/capacity/resource) gaps. Developing a dedicated strategy (engagement, communication or policy uptake strategy) already in the design of your project will support you in reaching your audience.

- *How can an effective knowledge transfer between research, society and political decision makers be enabled and maintained beyond the project duration?*
- *Which of my scientific peers or stakeholders can be gate-openers to debate or knowledge brokers?*

- Supporting dialogue between scientists, governments and donors can highlight needed adjustments in framework conditions and increase uptake
- Consider and promote think tank or (formal or informal) consulting activities to support knowledge exchange with policy and society
- If you have established successful fora (e.g. for science-policy exchange) explore the options on how to maintain them beyond the project cycle, e.g. by finding a suitable host with a long-term commitment.

Tip 1: Plan for flexibility by explicitly including opportunities for reflection on sustainability and adjustment
Discuss mechanisms supporting flexibility with project funders to allow reacting to opportunities as they come up.

Tip 2: Consider suitable indicators to gauge societal impact of the project, e.g. whether you want to inform laws or policy processes, change perceptions or raise awareness among the public, and ways of assessing these.

FURTHER READING

- Cvitanovic C, Shellock RJ, Mackay M, van Putten EI, Karcher DB, Dickey-Collas M, Ballesteros M. 2021. Strategies for building and managing 'trust' to enable knowledge exchange at the interface of environmental science and policy. Environmental Science & Policy 123:179-189.
- Cvitanovic C, Wyborn C, Glenn E, Kelly R, Louder E, van Putten EI, Bednarek A. 2021. Ten Considerations for Research Funders Seeking to Enhance Knowledge Exchange and the Impact of Marine Science on Policy and Practice. Frontiers in Marine Science 8:704495.
- Wilkinson M, Dumontier M, Aalbersberg I, et al. 2016. The FAIR Guiding Principles for scientific data management and stewardship. Scientific Data 3:160018.

Best Practice guidelines and standards research partnerships

- Guides by the Research Fairness Initiative (RFI) https://rfi.cohred.org/rfi-guides/
- Swiss Commission for Research Partnerships with Developing Countries (KFPE). A Guide for Transboundary Research Partnerships http://www.cohred.org/wp-content/uploads/2011/05/A-guide-for-transboundary-research-partnerships.pdf
- The Global Code of Conduct for Research in Resource-Poor Settings https://www.ukcdr.org.uk/resource/trust-global-code-of-conduct/
- Good Practices in Educational Partnerships Guide. UK-Africa Higher & Further Education Partnerships https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/31917/10-1031-africa-unit-good-practices-guide-final.pdf
- Institut de Recherche pour le Développement (IRD), Guide des Bonnes Pratiques de la Recherche pour le Développement. 2012 https://www.ird.fr/sites/ird_fr/files/2020-06/GBP%2B2015%2Bmaj%2B2018.pdf
- COHRED (2020) Fair Research Contracting - A Self-Assessment Tool For Institutions https://frcweb.cohred.org/wp-content/uploads/COHRED_SCNAT-FRC-Self-Assessment-Guide_V1.pdf

Online resources:

- Equitable Partnerships Resource Hub https://www.ukcdr.org.uk/guidance/equitable-partnerships-hub/
- CARE principles: https://www.gida-global.org/care
- GO FAIR: implementation of the FAIR principles: https://www.go-fair.org/fair-principles/

Annex

Table 1: Elements of co-design, objectives and potential activities

Elements of co-design phase	Objective (Steps) in the Co-Design phase	Concrete activities and tools
Part 1 Joint vision and common understanding 	Develop a (rough) project idea Analyse the framework conditions where the research takes place Collaboratively define a positive joint vision for the project	• Give-and-Take-Matrix defines what projects can offer, and expect from, each other. It can also be used in teams • Venn Diagram tool is suited for a first workshop of a joint project to get to know each other and to identify topics for knowledge co-production • COLLAB interdisciplinary icebreaker game to stimulate discussion and reflection • Broad document review: from scientific literature to national development objectives • Brainstorming or a World Café to share knowledge and ideas with partners and identify trends and factors influencing the context of the project • Appreciative inquiry can be used to clarify, develop and integrate different visions about joint endeavors. • Participant observation / active participation to experience day-to-day realities and practices • SWOT analysis: Strengths, weaknesses, opportunities, threats • Produce a "Vision Map" or an ideal timeline. • Individually brainstorm and write down everything that comes to mind about a positive vision for the research project. Then share and discuss. • Collaboratively draw a systems model, • Appreciative inquiry to clarify, develop and integrate different visions about joint endeavors • Outcome spaces framework to reflect on, and classify participants' preferred outcomes • Design Thinking is a five-step methodology that is usually professionally facilitated. It is most effective before a problem has been defined. The output is e.g. a strategy or concept that addresses a specific problem linked to explicit needs of stakeholders. • Theory of Change provides a description and explanation of how and why a project is expected to lead or contribute to a process of change. It is a powerful tool for project planning when defining the purpose, outputs, outcome and impact. • Soft systems methodology is used to create shared understandings of a problem situation in a heterogeneous group

Table 1: Elements of co-design, objectives and potential activities		
Elements of co-design phase	**Objective (Steps) in the Co-Design phase**	**Concrete activities and tools**
Part 2 Stakeholder Engagement 	Identify all potential stakeholders Understand stakeholders, their motivation, and their relationship towards the project. Analysing or mapping stakeholders to prioritize Early stakeholder engagement during co-design Plan for stakeholder engagement during project implementation	• Brainstorming: list as many stakeholders as possible and later estimate their relevance • Snowball approach: based on team members' experience and networks start listing (and analysing) stakeholders. Ask the respective network who they think is a (relevant) stakeholder. • Compare with past or similar projects: Look at cases from the same region or similar type of project and who played a key role. • Analyse the framework conditions of the country where the research takes place (See tools in Step 1 in Discussion paper 1) • Feedback talks/interviews with stakeholders about your project (see below), • (field) Visits to stakeholders • Learn from intercultural trainings • Stakeholder Map to visualise key, primary, and secondary stakeholders; then overlay a network map to visualise relationships • A power-interest matrix or Influence-Interest matrix prioritises stakeholders with high power or high influence and high interest • Salience model to prioritize stakeholders with high power, legitimacy, and urgency • A Theory of Change provides a description and explanation of how and why a project is expected to lead or contribute to a process of change. It is a powerful tool to identify stakeholders as well as for engaging in a dialogue • Actor constellation is a role-play for identifying the relevance of various involved actors for tackling a specific research question Dedicated stakeholder workshop or Multi-stakeholder discussion groups to ask for feedback or to foster collective brainstorming • The Functional-dynamic stakeholder involvement is an approach to specify stakeholder involvement • Outcome spaces framework provides a structure to reflect on, and classify participants' preferred outcomes • Give-and-Take-Matrix defines what projects can offer, and expect from, each other. It can also be used with stakeholders. • Appreciative inquiry can be used to clarify, develop, and integrate different visions about joint endeavors. • Discuss stakeholder engagement with your partners and key stakeholders and develop a stakeholder engagement strategy
Part 3 Project Management and Communication 	Trust- and team-building Schedule time to talk about project and partnership management Identify roles and responsibilities in your partnership Exchange about communication and decision-making. Compare, listen, and discuss. Come to an agreement and put it into writing Boost joint learning in your partnership	• Schedule group 'down time' through storytelling, games, expressive arts, activities such as role play, drawing, or excursions • Agreements can be made in Research Partnerships Agreements, Terms of Reference or Memorandum of Understanding • Provide opportunities for mutual learning, e.g. build in reflective elements (feedback talks, post-meeting surveys, etc.).

Table 1: Elements of co-design, objectives and potential activities		
Elements of co-design phase	**Objective (Steps) in the Co-Design phase**	**Concrete activities and tools**
Part 4 Sustainability 	Invest in the creation of well-working and equitable partnerships Agree to best practices to support equity Ensure relevance to stakeholders and communities in which research is done Encourage sustainability and equity in financing (budgets, purchasing and maintenance) Share benefits: Ensure data, information and material is shared and intellectual property is respected Minimise adverse environmental, social and cultural impact Secure outcomes and plan for dissemination and uptake	• Implement research ethics clearance/approval processes in your organisation • Support Research Ethics Review processes and bodies in the hosting partner country • Ensure fair contracting (see also COHRED Guidance and Self-Assessment Tool For Institutions) • All partners should ensure that all costs to deliver research outputs are covered in financial agreements of the research partnership • Support local benefits by fair local hiring and sourcing • Build capacities to maintain equipment • Use fair and mutually binding arrangements, you can use existing guidelines for fair research contracting as basis. Review compliance jointly and periodically • Come to a written agreement where equipment remains and how it will be maintained • Consider Data Ownership Agreements and Material Transfer Agreements • Consider shared authorship and copyright as minimum requirement • If necessary, access the services of commercial intellectual property lawyers. Some give their time for free to 'deserving causes'. • Incorporate the Principles for FAIR (Findable, Accessible, Interoperable, Reusable) data. When working with communities consider the "CARE Principles for Indigenous Data Governance", which were released in 2019 by the Global Indigenous Data Alliance (GIDA). • Develop an internal complaint mechanism for sharing benefits • impact assessment or risk analysis (e.g. as part of project proposal) • integrate practices to minimise environmental impact (e.g. paying for carbon offsetting when travelling) • Integrate outcomes into research networks and other projects • Eenhancing visibility and uptake

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