**Appendix: Case study overview**

**Table 3: Case study matrix**

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| **Case study title** | **Communicating Climate Change: What's the forest worth?** | **Co-producing and co-learning climate adaptation strategies in biodiversity conservation: lessons from Colombian protected areas** | **Communicating Climate change in the Indian Sundarbans** | **Communicating grassroot stakeholders: Climate change and biodiversity crisis in coastal Bangladesh** | **The Aswan DESIRE Workshop on socio-economic impacts of RES in MENA countries** | **Ecosystem Services as a rallying concept in multi-stakeholder workshops on biodiversity management and conservation** | **Dissidence and sabotage to redress scientific bias in communicating desirable coastal land management futures** | **Fieldwork experiences from climate change adaptation research on the Isles of Scilly** |
| **Region** | South America | | South Asia | | Africa | | Europe | |
| **Location** | Amazon rainforest, Brazil | Various protected areas in Colombia | Mousuni Island, India | Shyamnagar Upazila, Bangladesh | Aswan, Egypt | Lake Manyara Basin, Tanzania | Baltic Sea, Germany | Isles of Scilly, United Kingdom |
| **Duration of the case study event (without interviews)** | 4 weeks field trip and 1 day presentation | 40 days with various workshops  28 individual interview sessions | 6 days with workshops  120 individual interview sessions | 60 workshops of 3 hours each | 1-day workshop | 6-days, split into 2 workshops | 1-day world café and 21 expert interviews | 35 interview sessions, split over 9 weeks  1-day workshop |
| **Duration of the overall communicative process (incl. preparation)** | 6 months | 36 months | 6 months | 12 months | 6 months | 12 months | 18 months | 18 months |
| **Project Context**    *(What is the larger context of the case study?)* | Interdisc. research project on climate change and land management. Activity aimed at assessing carbon stocks, analysing knowledge production, and providing indigenous people with data for REDD+ projects | Interdisc. research project on how to strengthen protected-area managers' capacities to anticipate and respond to climate change and to rethink conservation and management strategies for climate adaptation | Research project on the effects of water-related hazards on the vulnerability of islanders to climatic events. Analysis of the adequacy of institutional support locals who lost faith in gov. support and engage in maladaptation practices | Research project on trends in aquatic ecosystems of the coast of Bangladesh. Investigation of community perceptions on changes in the ecosystem, biodiversity, and their impacts. | Capacity-building project for higher education institutions in teaching students and young professionals in the MENA region on evaluating the socio-economic impacts of renewable energy / energy efficiency. | Multi-disciplinary research initiative-project with the aim to support the development of a decision-support system for integrated water management and for assessing priority ecosystem services | Interdisc. research project on climate change and coastal land management. Key topic: evaluation of coastal protection scenarios based on managed retreat compared to conventional hard defence | Research project to analyse the role of social capital and community resilience in the context of climate change adaptation. |
| **Communic. context & intention**    *(To which communic. does the case study refer?)* | Field trip with community participation and a presentation for indigenous leaders  Intention: knowledge extraction and later, dissemination | Multi-stage, dialogue-based activity series with stakeholders  Intention: dissemination, transitioning to co-production of knowledge | Multi-stage primary survey with focus-group discussion, interviews, and workshops with different stakeholders  Intention: extraction transitioning to co-production of knowledge | Household surveys and focus-group discussions  Intention: extraction of knowledge | Local stakeholder workshop with talks and discussions for dissemination and identification of deficits  Intention: dissemination of knowledge | Two multi-stakeholder participatory workshops, survey, field visits  Intention: dissemination, transitioning to co-production of knowledge | Multi-step process to assess pre- formulated scenarios with semi-structured interviews and world café  Intention: Co-production & evaluation of scenarios; Dissemination of knowledge | Multi-stage fieldwork with quantitative surveys, semi-structured interviews, and participant observation  Intention: extraction of knowledge |
| **Communic. recipients**  *(Who were the communic.-partners?)* | Indigenous leaders; indigenous youth during the field trip | Primarily protected-area managers. In some stages local NGOs & communities | Local communities and NGOs, government officials at the village and district level | Community members directly and indirectly dependent on aquatic systems | Local leaders, civil society representatives, journalists, business owners | Local authorities, NGOs, pastoralists, smallholder farmers | Experts (for interviews and world café) and interested public world café and focus groups) | Local population, local authorities, NGOs, landholder, experts, and media, |
| **Ex-ante challenges**    *(Which initial challenges did the communic. face?)* | Communic. concept was not aiming at mutual exchange but at unilateral communic. of scientific facts | · 'Accommo-dating ecological change' conflicts with present rules to maintain ecological attributes  · Climate change is regarded solely as an exogenous, technoscientific problem, separated from governance / decision-making | · Limited awareness of the (potential) connection between mangrove depletion and deforestation in general to the increasing intensity of extreme climate events.  · Lack of political appetite and capacity among government authorities to engage in conversations about climate issues | Stakeholders used to top-down approaches by project managers and governmental representatives | · Limited communic. between European team and local organisers  · Limited interdisc. understanding of participants  · Participants are unfamiliar with participatory formats | · Implementation of the "evidence-informed" approach tedious and complicated  · Indicator-based communic. and ecosystem services often too complex for communic.  · Audience varies unpredictably between workshops | · 'Managed retreat' often provokes resistance  · Science-dominated project financing tends to control co-design approaches.  · Stakeholder preferences are difficult to include in quant. modelling. | · Scepticism towards UK-based 'experts'  · Heterogeneity of stakeholder perspectives and preferences  · Varying population and weather patterns between different seasons |
| **Instruments**  *(Which methods or tools were used for communic.?)* | · Presentation of results with carbon deconstructed to "energy" and REDD+ mechanisms as a contract  · Visualisations with cartoons and comparisons to everyday life experiences of local indigenous leaders  · Common field trip with daily discussions | · Interlinked five-stage participatory dialogue with a varying degree of stakeholder involvement  · Sequential workshops with different stakeholders  · In-depth interviews  · Visualisation of participant responses with diagrams and cartoons | · Trust building  · Awareness raising (documentaries, videos, pamphlets in local language)  · Participatory rural appraisal techniques to represent local resources  · Interactive construction of historical timelines  · Discourse and narrative visualisation  · Questionnaires and Participant observation | · On-site literature survey of local concerns  · (Key-informant) Interviews  · Narration-based deconstruction of biodiversity in interactive sessions  · Focus group-discussions  · Questionnaires  · design of a tailor-made questionnaire  · Ranking of aquatic resources | · Lecture-style talks and presentations  · Brief discussions  · Feedback survey asking for the participants' opinion | · Facilitated brainstorming in group discussions, drawing from experiences  · Collective stakeholder analysis (interest-influence-matrix)  · Problem /solution trees  · Drawing of community-specific maps  · Collective field visits  · Videos of testimonies about workshops | · Expert interviews formed the basis of one "stakeholder-based scenario"  · World café participants were asked to comment, reject or approve the scenarios  · Scenarios visualised possible coastal evolutions in different time steps  · Evaluation of non-negotiable scenarios assumptions | · Fieldwork spread over different seasons  · Early media announcements (local radio, websites)  · Interviewees could decide on the 'terms' of the interview  · Public discussion of research results  · Participant observation  · Climate change deconstructed to hazards and impacts |
| **Special achievements**  *(What worked out especially well?)* | · Joint data generation allowed for insights into the "making of" science  · Novel data obtained that would not have been available without this collaboration | · Construction of a common 'native' narrative  · Past experiences and reflecting on uncertainty and ecological transformation helped reframing assumptions and move from reactive management to anticipation | · Interactive construction of timelines and visualisations helped to tap and access local knowledge and establish a common ground on challenges and need for biodiversity preservation  · Established an initial understanding of the inter- dependency between maladaptation practices and climate vulnerability | Using local facilitators talking local dialect referring to a locally found habitat; instead of "biodiversity" use of concrete examples of aquatic fauna | · Large number of attendees  · Project coverage online and in newsletters  · 70% "very good" or "good" feedback responses | · Comparative analysis of literature and stakeholder perceptions worked out  · Locally respected facilitators in own language helped gaining trust and access.  · Community mapping was the most attractive tool in terms of ownership and participation. | · Using the concept of "land management" helped to move the focus away from coastal defence and enabled debate on alternatives | · Successful deconstruction of climate change due to local narratives (sea level rise/storms)  · Including a variety of stakeholders across seasons reduced biases.  · Transparent approach increased trust |
| **Drawbacks**  **& Difficulties**    *(Which problems persisted?)* | A technoscientific representation of climate change as a 'problem to be measured' prevailed among the scientists and obstructed an exchange on equal terms | A natural disaster forced the organisers to cut two of the planned four workshops | Links between global phenomenon & climatic events; between decreasing biodiversity & increasing vulnerability on the islands were not entirely established within the limited time frame | · Communic. of biodiversity concept was only partially successful  · Local units were largely unknown  · The multitude of local names for single species led to confusion. | · No translation available for European researchers  · Diverging objectives of organisers (dissemination vs. participation)  · Monopolised discussions  · Participants refused an interdisc. discourse | · Social-ecological systems (SES) were too complex for time frame and target audience  · Participants expected 'quick solutions'.  · Economic valuation of ecosystem services could not be realised. Struggle for resources amongst participants | Tight control of the participatory process led to unplanned bottom-up responses, where some participants rejected the steered process, and non-negotiable assumptions all together to reclaim control of the evaluation process. | High inter-seasonal variability of locals (e.g. second-home owners and busy tourism-sector affiliates are only available in summers) made it difficult to capture 'all' voices |
| **Surprises**    *(Which unexpected developments or insights resulted?)* | Local leaders were more interested in methods (e.g. how to determine the price of emissions to be certified) than policies. | The communic. was first hierarchical, despite extensive consultation during development and a sincere commitment to co-production | High willingness of the inhabitants to take part in participatory discussions and finding solutions together to increase resilience to future climate events | · Expectations of concrete help from the research project regarding biodiversity loss  · Each species had 2-4 local names | · A higher share of female participants than expected  · Some participants engaged to create business networks with European project partners | · Pastoralists acknowledge differentials in grass quality but avoid discussing overgrazing  · Pastoralists seemed rather unconcerned about the drying of the (saline) lake | Protesting participants created their own dynamicd by reshuffling the rules of evaluation and by constructing a scenario that fitted their preferences. | · High awareness of the islands' historical sea-level changes  · Despite the Scepticism towards UK-based 'experts', the (German) researcher was welcomed by the stakeholders. |
| **Main Learnings**      *(What can we learn with regards to the communic process?)* | · Obstacles from persistent diverging interests of researchers and stakeholders  · Co-design of topics is key to successful transdisciplinary research  · No "objective" way to discuss climate change  · Climate change images are still not disentangled from colonial settings and  socioeconomic imbalances. | · Local knowledge on adaptation can be as important as science for informing decisions  · Climate adaptation connects to various values and chances  · Communic. should highlight co-benefits and immediate management opportunities rather than potential future approaches | · Local knowledge needs to be systematised and included in policy discourses  · Potential points of Conflict and awareness of the local dynamics are important for researchers/external agents  · Regular communic. on global climatic events is necessary to take local communities onboard for adaptation | Assessing the local knowledge-base and using local languages is necessary to work with the community on these challenges. | Necessity to…  · harmonise organisers’ objective  · take measures to enforce active participation of all attendees  · include stakeholders of different academic backgrounds | · Impact limited to local awareness-raising,  · Mixed methods, tangible and rallying concepts as well as examples from everyday life are useful  · Small groups better than plenary to overcome social control and hierarchies  · Respected locals and civil-society intermediaries crucial for process and legitimacy. | · Perception, preference, and rationalisation gaps between science, policy, and local population  · Co-production requires balancing participation and control  · Scientists need to be won for co-design  · Funding agencies need to give more flexibility to use exploratory co-production | · Local experiences and awareness are necessary to allow deconstructing concepts.  · Biases can be reduced by including non-dominant stakeholders and extending the time frame over different seasons.  · Transparency is crucial for gaining trust and participation. |