**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 workshops28 individual interview sessions | 6 days with workshops120 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 leadersIntention: knowledge extraction and later, dissemination | Multi-stage, dialogue-based activity series with stakeholdersIntention: dissemination, transitioning to co-production of knowledge | Multi-stage primary survey with focus-group discussion, interviews, and workshops with different stakeholdersIntention: extraction transitioning to co-production of knowledge | Household surveys and focus-group discussionsIntention: extraction of knowledge  | Local stakeholder workshop with talks and discussions for dissemination and identification of deficitsIntention: dissemination of knowledge | Two multi-stakeholder participatory workshops, survey, field visitsIntention: dissemination, transitioning to co-production of knowledge | Multi-step process to assess pre- formulated scenarios with semi-structured interviews and world caféIntention: Co-production & evaluation of scenarios; Dissemination of knowledge | Multi-stage fieldwork with quantitative surveys, semi-structured interviews, and participant observationIntention: 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. |