Research approaches for place based studies of social-ecological systems: insights gained

QUESTIONNAIRE

Dear member of the PECS community,

You are receiving this email because you either participate in a PECS endorsed project, and/or you are (or have been) a member of the PECS Scientific Committee.

We are writing to you to seek your support in gathering insights from researchers working in the field how to best perform place-based social-ecological sustainability research (hereafter ‘PECS-type research’). For the PECS’ vision and definitions of this type of research we refer to the Carpenter et al (2012) paper on PECS and emphasize these three features:

1. focused on understanding linkages between key social and ecological systems in a particular place or places;
2. concerned with identifying and promoting opportunities to improve sustainability in terms of social wellbeing, and the conservation of ecosystem integrity and biodiversity;
3. working, at least minimally, in partnership with non-academic stakeholders

You can fill in this survey for any project in which you have been recently involved that is consistent with the above definitions and aims. Your answers should relate to one specific project (even if you have been involved in several). If several representatives of the same project have been invited to fill this questionnaire please coordinate with colleagues to return only one survey per project.

The spirit of the survey is that you share with us your insights on what do you see now as key enabling features and key obstacles towards placed-based social-ecological sustainability research.

This is a new survey based on the pilot conducted at the Moureze workshop.

We have divided the survey into six sections that relate to different aspects of the overall research approach adopted, or aspired to, within a particular study. These are described below.

1- **Problem orientation features**- How the project was conceived and designed, who is involved in this, and what are the key steps involved.
2- **Research team features**: What is the nature of the team (which researchers and stakeholders are included) as well as what is the nature of interactions between individuals and groups
3- **Evaluative features**: What the outputs and outcomes expected of the project, including those promised to the funders, those agreed upon with the stakeholders and those aimed for by the researchers involved.
4- **Conceptual features** – Which are the key themes, concepts and approaches that have been adopted and acquired during the project.

5- **Contextual features** - What is the context of the research site (scale, socio-economic, political and historical context, geographic, spatial and temporal) and does this, and the context of the research itself (institutional setting, funding, types of links with stakeholders) influence the dynamics of the research process.

6- **Methodological features** - What are the kinds of tools and types of methodological approach that were adopted as part of your research process.

We will be inquiring about your general thoughts on what are key features for each of these six categories, and what are desirable and undesirable aspects of these features using an open format. Then, we will use a closed format to inquire about which features are more or less important.

**Research ethics**

This survey asks you about challenges and experience of PECS-type research. Please respond as candidly as possible, but be mindful that data may conceivably be sensitive or reflect unfavorably on researchers, partners or funders. To mitigate the risk of inadvertent conflict or embarrassment, we will follow these ethical procedures.

- Your names and project details will be kept with the data.
- The raw, non-anonymized data will be shared between the six team members only (Patty, Berta, Chinwe, Marja, Tim, Toby).
- The answers will be used to write a paper in the PECS special issue and possibly follow up studies.
- Completing the survey will qualify you for acknowledgement in papers that use the data; you will also be invited to coauthor the manuscript if you are interested to do contribute to the writing of the manuscript within the narrow timeline available.
- Draft text for publication using these survey data will be shared with survey respondents before submission for publication. You can then clarify statements, request that you or your project remain anonymous, or that the data are removed. If you have not responded within 3 weeks we will assume that you consent for the text to be submitted for publication.

We thank you very much in advance for your support with this endeavor!

Patty, Berta, Chinwe, Marja, Tim, and Toby

**REFERENCES**

SURVEY

INFORMED CONSENT STATEMENT
By filling out this survey you indicate that
- I understand how data from this survey will stored and used
- I give consent for my name and project details to be stored with these data
- I will have 3 weeks to approve publication of data provided by my survey before publication. If I do not respond within three weeks my consent for publication will be assumed.
- I will inform lead authors if I am interested in participating as an author and will provide contributions to the different drafts of the manuscript.

GENERAL INFORMATION ON YOUR PROJECT
Please provide us with some basic information about your project.

What is the title of your project? __________________________
Project start date________ Project end date ____________
Where are your study site(s)?
   Name of region/locality
   Municipality
   State
   Country

Please provide a brief overview of what is the project about (150 words)

Where does the funding of the project come from?
How many people are directly (are paid by or have a fellowship directly linked to involved in the project?
   PIs ____
   Associate researchers __
   Postdocs ___
   Graduate students ___
   Undergraduate students ___
   Stakeholders ___

Which is your role in the project? (please click as many as needed to represent the team that filled this survey)
   PIs _
   Associate researcher _
   Postdoc _
   Graduate student _
   Undergraduate student _

Which countries are involved?
   Country of lead institution _________________________
   Other countries ____________________________________
Who are the stakeholders involved?

Government
  Local
  State
  Country levels

Land owners/managers

NGOs

Business

Other (please describe) __________________
PROBLEM ORIENTATION FEATURES

This section is about how the project was conceived and designed, who is involved in this, and what are the key steps involved.

1- Current performance of your project
Please provide us with your own list of up to three features of problem orientation features which you believe are important for PECS-type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

*Feature a.* ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
*Feature b.* ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
*Feature c.* ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)

I’d be tempted to add an optional comments box under each of the questions 1-5. Here as I think some good insights could be triggered by these questions as people go along, they might not have them to mind when they reach the end of the section.

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) problem orientation features (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

*Desirable aspect a.* ____________
*Desirable aspect b.* ____________
*Desirable aspect c.* ____________
*Desirable aspect d.* ____________
*Desirable aspect e.* ____________
*Desirable aspect f.* ____________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) problem orientation features (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

*Undesirable aspect a.* ____________
*Undesirable aspect b.* ____________
*Undesirable aspect c.* ____________
*Undesirable aspect d.* ____________
*Undesirable aspect e.* ____________
*Undesirable aspect f.* ____________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to problem orientation features.
Enabling factor 1 ____________________________________________
Enabling factor 2 ____________________________________________
Enabling factor 3 ____________________________________________

5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to problem orientation features.
Obstacle 1 ___________________________________________________
Obstacle 2 ___________________________________________________
Obstacle 3 ___________________________________________________

6- General comments
Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.
________________________________________________________________
________________________________________________________________
________________________________________________________________
7- Relative importance
Based on your experience, how important do you think each of these aspects of problem orientation features are for achieving successful place-based social-ecological sustainability research.
The possible answers are: 1- completely unimportant, 2- fairly unimportant, 3- important, 4- Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

Problem Orientation features

<table>
<thead>
<tr>
<th>Project initiation</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The project is triggered by a direct demand from stakeholders</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. The project is triggered by the identification of a key social-ecological sustainability issue</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The project is a continuation of long-term research occurring in at least one of the research sites</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. The project is triggered by a suitable call for proposals</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Identification of the research question</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. The research question is identified by the whole research team</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. The research question is identified in close collaboration with the stakeholders</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

Iterative refinement

<table>
<thead>
<tr>
<th></th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>g. The research question is refined as the project evolves</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>h. The research question and priorities within the project are refined with direct involvement of stakeholders</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
RESEARCH TEAM FEATURES

This section is about the research team (comprising both researchers and stakeholders) and interactions within the team.

1- Current performance of your project
Please provide us with your own list of up to three features of research team features which you believe are important for PECS type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

Feature a. _____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature b. _____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature c. _____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) research team features (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

Desirable aspect a. ______________
Desirable aspect b. ______________
Desirable aspect c. ______________
Desirable aspect d. ______________
Desirable aspect e. ______________
Desirable aspect f. ______________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) research team features (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

Undesirable aspect a. ______________
Undesirable aspect b. ______________
Undesirable aspect c. ______________
Undesirable aspect d. ______________
Undesirable aspect e. ______________
Undesirable aspect f. ______________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to research team features.

Enabling factor 1 ________________________________
Enabling factor 2 ________________________________
Enabling factor 3 ________________________________
5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to **research team features**.
Obstacle 1 _____________________________________________________________
Obstacle 2 _____________________________________________________________
Obstacle 3 _____________________________________________________________

6- General comments
Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.

______________________________________________________________

______________________________________________________________

______________________________________________________________
**7- Relative importance**
Based on your experience, how important do you think each of these research team features are for achieving successful place-based social-ecological sustainability research.

The possible answers are: 1- completely unimportant, 2- fairly unimportant, 3- important, 4- Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

<table>
<thead>
<tr>
<th>Composition of the research team</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The team incorporates researchers and students from different disciplines within the social and ecological sciences</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Local/regional stakeholders are embedded as full members of the team</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The team incorporates both specialists and generalists</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. The team includes people that are embedded in or deeply connected to site (not necessarily themselves stakeholders)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. The team includes researchers and students from research and education institutions local to study sites</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. The team includes more senior researchers as well as young scholars</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>g. The team incorporates researchers and students from different disciplines within the social and ecological sciences</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attitudes of team members</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Team members have good interpersonal skills (empathy, communication)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Team members have an open-minded attitude and are curious towards other people’s work</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Team members are strongly committed to the issues at the research site</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Team members are diligent, responsive and committed to the successful implementation of the project</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communication</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Communication allows for common understanding of the project and each others’ work</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. There are frequent communications across the team (not just within groups)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Face to face meetings are held at least once a year among all the different members of the team</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. A boundary object or collaborative platform is available to foster exchange (please specify if so)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. Trust between project participants has already been built, prior to project inception, over a sustained period (years)</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Roles of project members are clearly defined</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Rules for decision-making are clearly defined</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
c. Organizational structure for decision making allows all the members of the team to feel represented | 1 | 2 | 3 | 4 |
d. Budget issues are openly discussed among leaders of the different teams involved | 1 | 2 | 3 | 4 |
EVALUATIVE FEATURES

This section is about outputs and outcomes expected of the project, including those promised to the funders, those agreed upon with the stakeholders and those aimed for by the researchers involved (which may be explicit or not).

1- Current performance of your project
Please provide us with your own list of up to three features of evaluative features which you believe are important for PECS type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

Feature a. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature b. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature c. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) evaluative features (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

Desirable aspect a. ____________
Desirable aspect b. ____________
Desirable aspect c. ____________
Desirable aspect d. ____________
Desirable aspect e. ____________
Desirable aspect f. ____________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) evaluative features (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

Undesirable aspect a. ____________
Undesirable aspect b. ____________
Undesirable aspect c. ____________
Undesirable aspect d. ____________
Undesirable aspect e. ____________
Undesirable aspect f. ____________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to evaluative features.

Enabling factor 1 ____________________________________________
Enabling factor 2 ____________________________________________
Enabling factor 3 ____________________________________________

5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to **evaluative features**.

Obstacle 1

Obstacle 2

Obstacle 3

6- **General comments**

Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
7- Relative importance
Based on your experience, how important do you think each of these types of products and outcomes are important for the success of PECS-type research. The possible answers are: 1- completely unimportant, 2- fairly unimportant, 3- important, 4- Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

### Products expected from the research team

<table>
<thead>
<tr>
<th></th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Scientific papers in international peer-reviewed indexed journals</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Policy briefs aimed at local, sub-national or national level decision-makers</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Policy support tools (e.g. decision-support systems)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Management guidelines and best practices manuals</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. Outreach materials (e.g. leaflets) to be distributed in the study areas</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. Outreach materials (e.g. videos)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>g. Scientific papers in international peer-reviewed indexed journals</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

### Outcomes expected from the research team and process

<table>
<thead>
<tr>
<th></th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Team members have good interpersonal skills (empathy, communication)</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Building capacities within academia at academic institutions within the study sites</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Strengthening local informal institutions to foster decision-making</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Strengthening sub-national and national formal institutions to foster decision-making</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
CONCEPTUAL FEATURES

In this section we examine the key themes, concepts and approaches that are deemed most relevant for undertaking place-based social-ecological research.

1- Current performance of your project
Please provide us with your own list of up to three features of **conceptual features** which you believe are important for PECS type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

*Feature a.* ______________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)*

*Feature b.* ______________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)*

*Feature c.* ______________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)*

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) **conceptual features** (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

*Desirable aspect a.* ______________

*Desirable aspect b.* ______________

*Desirable aspect c.* ______________

*Desirable aspect d.* ______________

*Desirable aspect e.* ______________

*Desirable aspect f.* ______________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) **conceptual features** (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

*Undesirable aspect a.* ______________

*Undesirable aspect b.* ______________

*Undesirable aspect c.* ______________

*Undesirable aspect d.* ______________

*Undesirable aspect e.* ______________

*Undesirable aspect f.* ______________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to **conceptual features**.

*Enabling factor 1* __________________________________________

*Enabling factor 2* __________________________________________

*Enabling factor 3* __________________________________________
5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to **conceptual features**.
Obstacle 1: __________________________________________________________
Obstacle 2: __________________________________________________________
Obstacle 3: __________________________________________________________

6- General comments
Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.

__________________________________________________________
__________________________________________________________
__________________________________________________________
__________________________________________________________
7- Relative importance
Based on your experience, how important do you think each of these aspects of conceptual features are for achieving successful place-based social-ecological sustainability research.
The possible answers are: 1- completely unimportant, 2- fairly unimportant, 3- important, 4- Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

<table>
<thead>
<tr>
<th>Areas of assessment that should be included are</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Biodiversity</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Ecological processes</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Biophysical conditions</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Economic activities</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. Wellbeing</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. Governance arrangements</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>g. Informal institutions</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

Conceptual approaches used as organizing frameworks for social-ecological sustainability research

<table>
<thead>
<tr>
<th>Areas of assessment that should be included are</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Ecosystem services</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Equity and justice</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Historical processes and legacy effects</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Knowledge sought from both conventional and traditional sources</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. Resilience thinking</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. Transition theory</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>g. Knowledge sought from both conventional and traditional sources</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

Use of a conceptual framework

<table>
<thead>
<tr>
<th>Areas of assessment that should be included are</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. A conceptual framework is available to guide the research team and processes</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

If a conceptual framework is available please choose the appropriate option for describing how it was developed:

a. The conceptual framework was “borrowed” from a published source
b. The conceptual framework was “adapted” from a published source
c. The conceptual framework was developed from first principles by a small group of lead researchers
d. The conceptual framework was developed through participation of the majority of researchers
e. The conceptual frameworks was developed jointly by researchers and stakeholders
f. Other_______________________________
CONTEXTUAL FEATURES

This section asks about the particular context of the research site (scale, socio-economic, political and historical context, geographic, spatial and temporal) and the particular research context (institutional setting, funding, types of links with stakeholders), and how these influence the dynamics of the research process.

1- Current performance of your project
Please provide us with your own list of up to three features of contextual features which you believe are important for PECS type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

Feature a. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature b. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature c. ____________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) contextual features (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

Desirable aspect a. ____________
Desirable aspect b. ____________
Desirable aspect c. ____________
Desirable aspect d. ____________
Desirable aspect e. ____________
Desirable aspect f. ____________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) contextual features (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

Undesirable aspect a. ____________
Undesirable aspect b. ____________
Undesirable aspect c. ____________
Undesirable aspect d. ____________
Undesirable aspect e. ____________
Undesirable aspect f. ____________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to contextual features.

Enabling factor 1 ______________________________________________________________________
Enabling factor 2 ______________________________________________________________________
Enabling factor 3 ______________________________________________________________________
5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to problem orientation features.
Obstacle 1 ____________________________________________________________
Obstacle 2 ______________________________________________________________________
Obstacle 3 ______________________________________________________________________

6- General comments
Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
7- Relative importance
Based on your experience, how important do you think each of these aspects of contextual features are for achieving successful place-based social-ecological sustainability research.
The possible answers are: 1-completely unimportant, 2-fairly unimportant, 3-important, 4-Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

<table>
<thead>
<tr>
<th>Context and research design</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Multiple sites are selected to capture a range of biophysical and societal conditions to foster comparison</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Multiple spatial scales are addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The spatial scales at which decision-making takes place are explicitly taken into account</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. The project encompasses research over the long-term</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. Few enough study sites are included to allow for deep understanding at each</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. Multiple sites are selected to capture a range of biophysical and societal conditions to foster comparison</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>g. Multiple spatial scales are addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Understanding of key characteristics of research site</td>
<td></td>
</tr>
<tr>
<td>a. All main type(s) of ecosystems (including agroecosystems) at the study site</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. The local historical context is addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The key stakeholders are identified</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. The cultural context is addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>e. The socio-political drivers and context are addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>f. Cross-scale governance influences are addressed</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Context of research feasibility</td>
<td></td>
</tr>
<tr>
<td>a. Funding is obtained from both the countries where study sites are located as well as countries where other members of the team are located</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. Funding is available for this kind of research</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Funding is available for start-up or piloting costs</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>d. Home institutions of researchers foster/recognize the importance of trans-disciplinary research</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Context of research implications</td>
<td></td>
</tr>
<tr>
<td>a. Ethical guidelines of interaction with stakeholders and other local/regional actors, and among team members are explicitly taken into account</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. The direction of research is protected from manipulation by powerful stakeholders</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. Research results are used for original project aims rather than stakeholders promoting their own agenda</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
METHODOLOGICAL FEATURES

In this section we explore which tools and types of methodological approaches constitute the research process. Irrespective of what actually happened in the project we are looking for what you think should have been done.

1- Current performance of your project
Please provide us with your own list of up to three features of methodological features which you believe are important for PECS type research, and rank the current performance of your project from 4 (excellent) to 1 (very poor) for each of these features.

Feature a. ___________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature b. ___________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)
Feature c. ___________ 1 (very poor), 2 (poor), 3 (good), 4 (excellent)

2- Desirable aspects
Please tell us what do you think are desirable aspects of the above (and other if needed) contextual features (that you have either encountered or would like to see in future projects) towards achieving successful place-based social-ecological sustainability research.

Desirable aspect a. ___________
Desirable aspect b. ___________
Desirable aspect c. ___________
Desirable aspect d. ___________
Desirable aspect e. ___________
Desirable aspect f. ___________

3- Undesirable aspects
Please tell us what do you think are undesirable aspects of the above (and other if needed) contextual features (that you have either encountered or feared to do so) towards achieving successful place-based social-ecological sustainability research.

Undesirable aspect a. ___________
Undesirable aspect b. ___________
Undesirable aspect c. ___________
Undesirable aspect d. ___________
Undesirable aspect e. ___________
Undesirable aspect f. ___________

4- Enabling factors
Please tell us what do you think have been the three key factors that have enabled a good performance of your research project with respect to problem orientation features.

Enabling factor 1 ________________________________________________
Enabling factor 2 ______________________________________________________________________
Enabling factor 3 ______________________________________________________________________
5- Obstacles
Please tell us what do you think have been the three key obstacles that have prevented a good performance of your research project with respect to problem orientation features.
Obstacle 1 ____________________________________________________________
Obstacle 2 ____________________________________________________________
Obstacle 3 ____________________________________________________________

6- General comments
Please share with us any other insights with respect to problem orientation features that you think will be very useful to others undertaking this kind of research in the future.
______________________________________________________________
______________________________________________________________
______________________________________________________________
7- Relative importance
Based on your experience, how important do you think each of these aspects of methodological features are for achieving successful place-based social-ecological sustainability research.
The possible answers are: 1-completely unimportant, 2-fairly unimportant, 3-important, 4-Essential. Please do not just score every feature as 4 unless you are really convinced that they are all essential.

<table>
<thead>
<tr>
<th>Nature of research methods</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The projects uses both qualitative and quantitative methodological approaches</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. The project uses both methods from Natural and Social Science</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The project uses participatory methods, including individual and deliberative tools</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nature of methodological approaches</th>
<th>Importance Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The project uses participatory action research approach</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>b. The project incorporates explicitly uncertainty in its methodological approaches</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>c. The methods allow for triangulation of the information</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

THANK YOU FOR YOUR TIME!