

Author's response to reviewers' comments

June 15th 2017

We want to thank both reviewers for very helpful comments and the editors for an opportunity to resubmit our manuscript JRDC-1418 in a special issue 'Communities and New Development Paths in the Sparsely Populated North' of the Journal of Rural Development.

We have organized the comments with respect to the style of the reviews. We have divided the comments into two tables: One with major and overarching comments and one with minor comments. In both tables, each comment is a direct citation from the individual reviewer. Both reviewers had handed in a list of both minor and major comments, and none of them handed in the manuscript text with edits. For each comment, we have assigned a section in the peer-reviewed copy where the focus of the comment is and most actions were taken. Some of the section headlines have been changed in the resubmitted paper. Other minor comments from the reviewers, that are not included in the tables, include spelling, sentence syntax and paragraph structure and were amended to the best of our ability.

In the revision, we agree with the assessment of Suzanne de la Barre, Doris Carson and Patrick Brouder, who wrote that the issues mentioned by the reviewers most worthy of attention were these:

- Provide an enhanced argument and support for
 - what we mean by 'attractiveness' (Reviewer 1)
 - the unique application of the method (Reviewer 2)
- Better describe and explain
 - Methodology and findings (Reviewer 1)
 - Methodology and section systemic indicator approach (Reviewer 2)
- Elaborate on and emphasize the importance of the study as baseline for further application in Discussion (reviewer 2)

Major comments

Reviewer	Comment	Section	Response	Actions taken
1	After reading the paper it is not very obvious why there is such a strong emphasis on NP context? This may be a research that has been funded by a particular EU, Nordic (etc.) tool and framework, but basically the paper focuses on the Vatnajökull National Park (VNP), Iceland, and adjacent areas. That context is quite different than northern Scandinavia (with 3-4 % increase in tourism, indigenous people involvement) or Scotland or Ireland. I would strongly recommend to add more suitable context to the title. Especially as there are ‘northern peripheries’ in the North America as well which are quite different in relation to tourism and land management, for example.	All	Thank you for this helpful comment. The research was not funded by the EU or any Nordic foundation. The emphasis on NP is strictly out of interest in the topic. We want to argue that despite differences in some aspects the European northern periphery areas do share many issues and opportunities that relate to sustainability and tourism development. Even though Iceland has experienced a steeper increase in visitor numbers, the areas face similar difficulties in sustainable development of tourism. This difference can more importantly contribute to lessons learned between the areas.	These two comments are asking for the manuscript to go in opposite directions. After much discussion, we chose to follow reviewer 2 and elaborate and better draw out the reasons for discussing Vatnajökull National park in the NP context. Furthermore, we believe it is appropriate to keep a clear connection to NP as a topic because this paper is aimed to be published in the special issue: ‘Communities and New Development Paths in the Sparsely Populated North’. Therefore, the title has been changed to: ‘Stakeholder participation in developing sustainability indicators for European Northern Periphery tourism: A systems analysis approach’ , and the content accordingly.
2	The discussion on the applicability beyond the case study could be enhanced.	All	We agree that the discussion on applicability beyond the case study could be elaborated on. We have therefore taken out more clearly how the results of applying the method relate to the NP context and can be useful especially in this context.	
2	The unique application of the method could be argued more persuasively (and better supported)	All	We agree very much with this comment.	More persuasive arguments have been added to introduction, discussion and conclusion.
2	A lack of clarity begins on page 10, section systemic indicator approach. There are many different kinds of calculations and	Methods	We understand that the method is difficult to grasp and we have made an effort to clarify the data analysis process.	The section ‘systemic indicator approach’, now ‘Data analysis’ has been revised thoroughly. We have also added figure 3

	<p>numbers presented, and the relationships and modeling outlined in a narrative form might benefit from visual support. Confusing seems to take hold in the authors' presentation of the second aim of the paper re: interrelatedness of the indicators.</p>			<p>which is a flowchart of the data analysis process, the different calculations and numbers. We have also chosen not to include numbers in the lists of indicators in order to not add more numbers which can create confusion.</p>
<p>1</p>	<p>I tried to understand what the key outcome and idea of 'destination attractiveness' as an indicator means. As I'm still troubled, I think it needs further clarifications. Attractiveness is a relational matter, highly subjective and contextual matter. So, what does it actually indicate here? (Especially in relation to sustainability). Secondly, attractiveness is usually measured by visitor flows or turnovers. This paper declines the relevance of numbers in this respect. While I think there are potentially good reasons for that, the logic needs further argumentation. Are we actually talking about attractiveness or maintaining (safeguarding) a certain kind of natural and social environment and environmental characteristics? Contrast to what is said (p.6) I think the evolution of a destination can be characterized by 'number of visitors', businesses, financial returns, or any other (suitable & reliable) numerical indicator. But I do agree that resource management and planning in destination contexts requires additional views. However, that does not necessarily equal with 'attractiveness' in tourism.</p>	<p>Results and conclusion</p>	<p>Tourist that visit Iceland are do so almost entirely because of nature-based destinations, as mentioned on page 6. Therefore, it is crucial that attractiveness of destinations is preserved in a sustainable manner with planning, infrastructure and conservation. In the results and discussion, we further emphasize this aspect of attractiveness. The results show that 'attractiveness' is important in the context of systems output (quality of life, ecological value, recreational facilities). The results also show that destination attractiveness is crucial to the system because it is the most vulnerable indicator to changes in the other indicators. It is therefore reliant on other indicators such as demand. We do therefore not deny the involvement of 'number of visitors' or other numerical and/or economic indicators. We rather want to pinpoint that these kinds of information need to be looked at in context with other indicators that might have a bigger impact on decision-making processes.</p>	<p>The view of attractiveness as is focused on in the results of this study has been taken out and made more explicit in the results and discussion.</p>

1	Presenting the results could be clearer; now the different sums are referred in the text only. Would there be possible to have a summing table or figure based on those? Or is Table 2 the best than can be summed?	Results	We understand that the data analysis process and the relationship between the different calculations and sums could be made clearer. We do however not agree that adding another table to the main text would help. Instead we want to draw the attention of the reader to table 2.	We have added figure 3 which is a flowchart of the outcome of each step in the data analysis process. We have also added the full tables of pair-wise comparisons in appendices II and III. These include the full analysis of the sums in effort to streamline the methods for replication and make the process more transparent.
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Minor comments

Reviewer	Comment	Section	Response	Actions taken
2	The approach could be better introduced and explained in the introduction	Introduction	We do not think it is appropriate that the introduction should include an explanation of the method, as it would make the section too long. Although the emphasis on the approach could be more enhanced in the introduction.	The introduction has been revised with regards to better introducing the systems approach.
2	Does the case study being a park impact / differentiate it from other northern periphery areas?	Background	We do not think that the national park makes this area different from other NP areas because most tourist destinations in the northern periphery are in or adjacent to protected areas.	No changes were made to react to this comment specifically.
2	“Study area” may be better placed in “background” leaving data collection presentation as a separate section	Methods	We agree.	The description of study area is now in a separate section.
2	The tiered nature of the analysis requires clarity for the reader to follow	Methods	We understand that the data analysis	The explanation of the method

	the author's process (and to understand the findings).		process and the relationship between the different calculations, sums and outcomes could be made clearer	has been clarified. A flowchart of the outcome of each step in the data analysis process has been added as figure 3.
2	Is there a way to walk the reader through the implementation of all the processes used to achieve the aims of the paper and the relationships between all the variables?	Methods		
1	How were stakeholders selected in practice? How many form each subgroup?	Methods	We agree that this information is useful in introducing the data collection. Although, we do not think that a summary table is necessary.	The number of participants in each stakeholder group has been added in-text along with an elaborated explanation of how the participants were selected.
2	Methods: How many of each type of stakeholder? Does this matter? How selected? (a summary table might be useful)	Methods		
2	It is unclear that the numbers in the first column of Table 1 indicate ranked indicators.	Methods and Results	Both reviewers have misunderstood the numbering in table 1 and the purpose of vertical sums. We understand that this means that the process has to be made clearer. The numbers in table 1 do not indicate ranked indicators. The number indicate the order (not rank) of criteria that is used to verify the indicator variables. The vertical sums in the first pages of the results are not supposed to match the numbers of the criteria in table 1, they are an outcome of using table 1 to verify the indicator variables.	The text explaining the method and the results section has been revised thoroughly. Also the flowchart of the outcome of each step in the data analysis process in figure 3 may help.
2	The vertical sums don't match the ranking numbers in Table 1; which is fine but it creates confusion to have to recall where all the numbers come from. As a for instance, "Endogenous" vertical sum is 18 and its rank in Table 1 is 17.			
1	The map needs to be revised (Figure 1), ie redrawn with an understanding of projections. It seems Svalbard is much larger than Iceland (that, however, is an alternative truth, as ICE is min 1,5 times larger than Svalbard).	Figure	We agree that this map of the northern periphery was not geographically representative.	The map has been removed in order to make the paper shorter.
1	Fig 2 does not work in B&W format	Figure		The figure was replaced with a better one.
2	Could the indicator variables be numbered for easy references in discussion areas?	Results	Bearing in mind other comments above, we found it would be	No changes were made, neither in the

2	Table 2 might benefit from numbered indicators for ease of reference (bearing in mind the confusion over numbers, so would have to be weighed in given a new strategy to present the information/calculations/findings).	Results	help clarify to not add numbers to the indicator variables, as it is easily confused with referring to a ranking of the indicators, which it is not. We do not include weighing in this study.	initial list of indicator variables on the first page of results or in table 2.
1	I would also add to the discussion something about the use of the approach; does it need a researcher involvement or can 'the markets' deal with these kinds of indicators? i.e. how usable it is for businesses or public sector actors?	Discussion	We agree that a discussion of the usefulness of the approach could be clarified. We do however not agree that including the latter part of this comment as it is clear that the sustainability indicators developed in this study are aimed to aid planning and decision-makers.	The last paragraph in discussion which aims to discuss the usefulness of the approach has been revised substantially.
2	The pilot study aspect of the research is introduced to the reader on page 18, and may be better placed in the introduction.	Discussion	We agree that it is not appropriate to label this research a pilot study so late in the paper. This was an error.	The pilot study aspect was removed all together and the sentence revised.