Peer Review Report

Review Report on Bridge construction impacts the adjacent channel morphology and turbidity of a dying distributary of river Padma

Original Research, Earth Sci. Syst. Soc.

Reviewer: Biplab Sarkar
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EVALUATION

Q 1 **Please summarize the main findings of the study.**

The study " Road crossing impacts the morphology and ecology of a dying distributary of river Padma" presents fascinating evidence of how extensively human interventions are changing the morphology of the rivers in the Bengal Delta region (India). The authors have successfully applied the basic metrics of channel morphology like average depth, wetted perimeter, and cross-sectional area at 44 cross-sections (CS) downstream to the site of the construction of the fourth bridge over the river Jalangi River.

Q 2 **Please highlight the limitations and strengths.**

Strength: Sound objectives and clear methods. Limitation: poor anstract and conclusion.

Q 3 **Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.**

Methods: ok
Results: need revision
Data interpretation: ok

Q 4 **Check List**

Is the English language of sufficient quality?
No.

Is the quality of the figures and tables satisfactory?
Yes.

Does the reference list cover the relevant literature adequately and in an unbiased manner?
Yes.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)
Yes.

If relevant, are the methods sufficiently documented to allow replication studies?
Yes.

Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)
Yes.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Yes.

If relevant, have standard biosecurity and institutional safety procedures been adhered to?

Yes.

Q 5 **Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):**

The study " Road crossing impacts the morphology and ecology of a dying distributary of river Padma" presents fascinating evidence of how extensively human interventions are changing the morphology of the rivers in the Bengal Delta region (India). The authors have successfully applied the basic metrics of channel morphology like average depth, wetted perimeter, and cross-sectional area at 44 cross-sections (CS) downstream to the site of the construction of the fourth bridge over the river Jalangi River. The effort put in on the manuscript is commendable. However, the manuscript needs significant improvement. Below are my major concerns.

Abstract

The results presented in this section lack depth. Therefore, I recommend expanding this section to include more detailed and relevant research findings to strengthen the overall analysis.

Introduction

The authors have presented the perspective of the road-stream crossings and their impact on channel form and process. They have, however, neglected to draw attention to the nature, intensity, and consequences of road-stream crossings on the neighboring rivers of Jalangi like the Bhagirathi-Hooghly, Churni, Ichamati etc.

Line 68-73 p3: the statements made need to be supported by relevant citations to strengthen their credibility

Line 84-86 p3: rephrase the last objective.

I couldn't find the section regarding the study area. The Jalangi River, however, exhibits a limited description in the introduction section. I suggest adding a distinct section on the study area with details on the Jalangi River's course, selected reaches, the locations of the road-stream crossings under investigation, etc.

Place Table 1 under the study area section.

Methods

2.1. Generation of data on road crossing structures and construction methods: mention the shape of the piers

2.2. Cross-Channel morphometry: mention the location of 44 cross-sections, preferably in the figure.

2.4. Water quality and Aquatic habitat: mention the depth of water considered for taking water samples. Mention the method followed for water sample preservation.

“Na+, K+, Ca2+, and Mg2+ , Cl−, SO42−, HCO3−, NO3−“ scientific represention is essential.

2.5. Analysis of data using statistical, mathematical, and pictorial tools: pictorial tools??

Results and discussions

The results presented in Table 4 A, B, and C are not explained in the results section. This is the main issue I observed in the result section.

Conclusion

The integration of the study's objectives, findings, and discussion was not adequately reflected in this section. Therefore a thorough revision is required.

QUALITY ASSESSMENT

Q 6	**Originality**	
Q 7	**Rigor**	
Q 8	**Significance to the field**	
Q 9	**Interest to a general audience**	
Q 10	**Quality of the writing**