

Dear Editor and Reviewers,

We sincerely thank you for your constructive comments and valuable suggestions on our manuscript. Your insights have been instrumental in enhancing the quality and clarity of our work. We have carefully reviewed our manuscript in light of your feedback and have made detailed revisions accordingly. The changes we implemented are as follows:

Reviewer 1

The article "Reframing Water Demand Management: A New Co-Governance Framework Coupling Supply-side and Demand-side Solutions Toward Sustainability" presents a novel approach for sustainable water management. It introduces a co-governance framework that combines political, financial, and consumption angles, with a specific focus on the South-to-North Water Diversion Project in China. The framework notably emphasizes ecological water release and cooperative investment strategies, offering practical insights of global relevance. I suggest accepting the article "Reframing Water Demand Management: A New Co-Governance Framework Coupling Supply-side and Demand-side Solutions Toward Sustainability" for publication after minor revisions.

To strengthen the linkage with Section 2, it would be beneficial to further highlight how this framework specifically tackles the identified challenges and uncertainties. Emphasizing the framework's role in synthesizing various dimensions of water demand management would enhance its relevance to the evolving scenarios and sustainability issues discussed. This would underscore the framework's capability to navigate the intricate dynamics of water demand and supply amid environmental changes.

Currently, resolution and font size & style vary across the different figures. It is possibly due to that the figures are generated by using different approaches. The authors are suggested to unify the format of the figures. In this way, the figures become a more integral part of the paper.

Response1

Dear Reviewer ,

Thank you for your insightful comments and suggestions regarding our manuscript, "Reframing Water Demand Management: A New Co-Governance Framework Coupling Supply-side and Demand-side Solutions Toward Sustainability." We appreciate the opportunity to enhance our paper and agree that your suggestions will strengthen its contribution.

1. Linkage with Section 2:

In response to your advice, we expanded Section 2 to detail how our co-governance framework addresses the key challenges in water resource management. In Section 4, we now demonstrate the practical application and effectiveness of these strategies. This modification not only improves the coherence between the two sections but also more clearly showcases the comprehensiveness and practicality of our framework.

Furthermore, we have revised Section 4 to better articulate how our co-governance framework addresses the challenges and uncertainties highlighted in Section 2. Specifically, we have added several strategies in Section 4 including reducing energy expenditures, reforming water pricing, and expanding the scope of negotiation and cooperation, which elucidates the framework's capacity to integrate multiple dimensions of water demand management. This revision underscores its relevance and adaptability to the evolving scenarios and sustainability issues you mentioned.

2. Consistency in Figures:

Regarding the inconsistency in the format of the figures, we have standardized the resolution and style across all figures. Now, all figures are presented in a uniform format, better integrating into the overall structure of the paper.

We believe these revisions have significantly improved the manuscript and thank you again for your constructive feedback. We are open to any further suggestions or comments you may have.

Reviewer 2

The manuscript offers a well-structured and relevant approach to water demand management in the context of climate change, introducing an innovative co-governance framework. The application of this framework to the South-to-North Water Diversion Project in China is well-executed and insightful. For further enhancement, To enhance the paper's impact, it is suggested to include additional examples demonstrating the framework's implications for other planned water diversion projects. This approach will not only strengthen the evidence of the framework's effectiveness but also offer valuable insights for the planning and implementation of similar future projects. Such an analysis would significantly contribute to the paper's practical relevance and applicability in the field of water management. Overall, the paper is well-positioned for publication with minor revisions to strengthen these aspects.

Response2

Dear Reviewer ,

Thank you for your thoughtful and constructive feedback on our manuscript, "Reframing Water Demand Management: A New Co-Governance Framework Coupling Supply-side and Demand-side Solutions Toward Sustainability." We are grateful for your recognition of the work's structure and relevance, particularly in the context of the South-to-North Water Diversion Project in China.

In response to your suggestion, we have specifically emphasized the practicality of our recommendations for other planned water diversion projects worldwide. In Section 4, we integrated core principles of economics with mathematical techniques of game theory to conduct a comprehensive analysis of water diversion projects. We applied economic theories and the mathematical framework of game theory to address the issue of enhancing the sustainability of such projects. Specifically, we proposed a set of practical and actionable strategies, including reducing energy consumption, developing adaptive water pricing mechanisms, and expanding the scope of negotiation and cooperation, while also considering the significance of these projects in the context of climate change. These strategies

are not only applicable to China's South-to-North Water Diversion Project but also offer pragmatic guidance for other global water diversion initiatives. We firmly believe that these well-designed strategies will significantly enhance the practical application value of our paper and provide strong guidance and insights for practitioners in the field of water resource management. We are open to any further suggestions or comments you may have.

We believe these modifications have significantly improved our manuscript, making the findings more robust and the arguments clearer. Thank you once again for your thoughtful guidance throughout this revision process.