

## ***Interactive comment on “Hard paths, soft paths or no paths? Cross-cultural perceptions of water solutions” by A. Wutich et al.***

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We are very grateful for the time Dr. Brooks took in reading our work and in making suggestions for its improvement. Given our heavy reliance on Dr. Brooks' scholarship to establish the theoretical framework for this paper, we were gratified that he felt our paper makes a meaningful contribution to the literature.

We found three comments particularly useful in guiding our changes to the manuscript. First, our revision will be clearer about cases in which soft paths are supported (especially regarding water consumption limits and pricing increases). Second, we understand the need to “soften” statements about our findings, and particularly to contextualize those that are specific to the four sites studied and to highlight areas which remain

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understudied. Third, we believe our addition of the supplementary table suggested by Dr. Brooks will help in our efforts to characterize ways in which our findings may be constrained by (or specific to) the sites we chose.

We intend for the changes made to the manuscript to address nearly all of Dr. Brooks' comments and suggestions to the extent possible within the journal word limit. Below, we respond to Dr. Brooks' comments point by point.

Comment 2-1. "I HAVE ONE MAJOR QUALIFICATION WHICH IS THAT, EVEN IN THOSE AREAS SEEMING TO SUPPORT SOFT PATHS, FEW MENTIONED NOT JUST DEMAND MANAGEMENT (MORE EFFICIENT USE OF WATER) BUT CONSERVATION (LESS USE OF WATER). GIVEN GROWING POPULATIONS, LESS WATER PER CAPITA AND IDEALLY LESSWATER ABSOLUTELY IS A KEY GOAL OF SOFT PATHS."

Author Response: In the US site, water rationing and population growth limits were both strong themes. In the Bolivia site, demand management (especially regarding the river) was a salient theme. In our revision, we will draw more attention to these themes. We will also explore in greater depth the implications of these soft paths being supported primarily in our study's two water-scarce sites. This is something we neglected to mention in our discussion, and we thank Dr. Brooks for drawing our attention to it.

Comment 2-2. "NOT SURPRISINGLY, SO FAR AS I CAN REMEMBER NO ONE SUGGESTED ANYTHING ABOUT WATER PRICING AS A TOOL."

Author Response: This is correct; nobody mentioned water pricing as a solution to water risks. However, in our analysis of responses to other sections of our interview protocol – on water and injustice – we noted that water pricing was on the minds of some respondents in the US site. Several respondents said that their water institutions would be secure and just as long as "we can afford the water." In short, given the semi-privatized nature of water institutions in the US site, respondents typically assumed

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that water prices would increase significantly in the future” and expressed some misgivings about their ability to afford future water prices. We explore this finding in more depth in our analysis of this aspect of our dataset (published as Wutich et al. 2013 in *Society & Natural Resources*), but we will briefly mention it in our revision.

Comment 2-3. “MINOR QUALIFICATIONS - In 1.1, it would be well to note that soft paths have always incorporated public participation in decision making as both end and means.”

Author Response: We will make this addition to the revision.

Comment 2-4. “In 1.1 the sentence that begins “While water managers” seems too strong, and probably deserves some citations to back it up.”

Author Response: We believe Dr. Brooks is referring to the sentence that begins “While much is known about water managers’ receptiveness to hard path and soft path solutions...” on p. 7811 line 25. We will revise and moderate this statement and provide citations to support it.

Comment 2-5. “In 5.3, I would challenge the point that Arizona does not face economic water scarcity – not for drinking perhaps but what about farmers and ranchers.”

Author Response: We agree that the distinction between economic and physical water scarcity is quite complex and that some populations (e.g., urban poor or homeless) in Arizona do face economic water scarcity (e.g., Wescoat et al. 2007 discusses hidden water poverty in the western US). Our comments, however, were meant to refer to the IWMI classification system we used to establish our research design, which does classify this region as having physical (not economic) water scarcity. In the revision, we will clarify our statement and add a brief acknowledgment of the nuances noted by Dr. Brooks.

Wescoat, J. L., Headington, L., & Theobald, R. (2007). Water and poverty in the United States. *Geoforum*, 38(5), 801-814.

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Comment 5-1. “I BELIEVE THOSE INTERPRETATIONS AND CONCLUSIONS SHOULD BE PUT FORWARD MORE MODESTLY. THERE IS A LOT MORE TO BE LEARNED.”

Author Response: We are definitely conscious of the limitations of a four-site comparison study design, and acknowledge that our findings regarding cross-cultural perceptions of water solutions are suggestive (rather than definitive). We had attempted to convey this in our sections on limitations and future research, but will revise our discussion and conclusion sections to ensure that we are not overstating the generalizability of our findings.

Comment 5-2. “. . .FOR EXAMPLE, COCHABAMBA IS THE ONLY SITE WHERE GUNS HAVE BEEN USED IN THE MEMORY OF THOSE INTERVIEWED.”

Author Response: Conflicts over water have occurred in all of the study sites, though local tactics for effecting institutional change do, out of necessity, vary in each site. In our new supplementary table, we will summarize the types of water-related political conflicts that have occurred in each site.

As a note, the 2000 Cochabamba “Water War” (which we believe Dr. Brooks is referencing) was an initially peaceful protest that was met with police suppression and brutality (e.g., Assies 2003). Far from being a water-specific incident, violent suppression of popular protests on a range of policy issues (e.g., the “Gas Wars” of 2003 and 2005) was a common occurrence in Bolivia during the turbulent period that led up to the resignations of President Sánchez de Lozada (2003) and interim President Mesa (2005), emergency appointment of Supreme Court Chief Justice Rodríguez as president (2005), and election of President Evo Morales (2005). As such, the “Water War” should be seen as one of a series of protests in Bolivians’ centuries-long fight for the right to own and communally govern their natural resources (Perreault 2006, Spronk and Webber 2007), rather than an event that fundamentally reoriented Bolivian understandings of water governance.

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Assies, W. (2003). David versus Goliath in Cochabamba: Water rights, neoliberalism, and the revival of social protest in Bolivia. *Latin American Perspectives*, 30(3), 14-36.

Perreault, T. (2006). From the Guerra Del Agua to the Guerra Del Gas: resource governance, neoliberalism and popular protest in Bolivia. *Antipode*, 38(1), 150-172.

Spronk, S., & Webber, J. R. (2007). Struggles against Accumulation by Dispossession in Bolivia The Political Economy of Natural Resource Contention. *Latin American Perspectives*, 34(2), 31-47.

Comment 5-3. "ALSO, I HAVE BEEN IN ALL OF THE AREAS EXCEPT FIJI, AND I SUSPECT THAT BOLIVIA IS FAR POORER IN ALMOST ALL DIMENSIONS THAN FIJI."

Author Response: Per Dr. Brooks' Comments 5-4 and 15 (below), we will add a table including demographic, economic, and political characteristics to our supplementary materials in the revision to facilitate cross-site comparisons such as this one.

Comment 5-4. "SEE NOTE AT THE END ABOUT ANOTHER TABLE."

Author Response: We will make this addition to supplementary materials in the revision.

Comment 9: re the abstract. "AGAIN I WOULD PREFER MORE MODESTY IN THE STATEMENTS"

Author Response: Here, too, we will revise the abstract to ensure that we are not overstating the generalizability of our findings.

Comment 10. "In the numbered series in the Introduction, each sentence after the colon should start with an upper case letter, or none should."

Author Response: We will carefully edit the revision to correct inconsistencies in the introductory headings.

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Comment 13. "I FOUND THE LAST SEVERAL SECTIONS SOMEWHAT REPETITIOUS. IT WOULD BE WELL TO HAVE SOMEONE NEW TO THE MS READ IT AGAIN TO SEE IF HE OR SHE REACHES THE SAME CONCLUSION."

Author Response: This was not noted by the other reviewer, Dr. Wolff; however we will closely read and consider revising the discussion and conclusion to ensure that they are not unnecessarily repetitious.

Comment 15. "I WOULD LIKE TO SEE A SECOND TABLE THAT WOULD PROVIDE DEMOGRAPHIC, ECONOMIC, AND IF POSSIBLE POLITICAL DATA ON EACH OF THE FOUR COMMUNITIES STUDIED. I AM NOT LOOKING FOR CENSUS QUALITY DATA BUT ESTIMATES GOOD ENOUGH TO ALLOW THE READER TO COMPARE AND CONTRAST, AND POSSIBLY SUGGEST ALTERNATIVE HYPOTHESES. AS IMPLIED BY THE AUTHORS, ONE CANNOT WONDER WHETHER THE EXTENT TO WHICH THE SPECIFIC EXPERIENCE OF COCHABAMBA INFLUENCED THE ANSWERS."

Author Response: We thank Dr. Brooks for this excellent recommendation, and will add the supplementary table as he suggests.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 7809, 2013.

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