

# Rules, Norms, and Injustice

## A cross-cultural study of perceptions of justice in water institutions

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### Introduction

Water is a vital component of life and as such it should be easily accessible to all individuals regardless of their social standing, age, ethnicity, gender and place of origin. However, this is not always the case. Water is often inequitably distributed within and across communities, regions, and nations (UNDP 2006). Sometimes, natural conditions limit water accessibility and create disparities in its distribution, but other times the perception that water distribution is unjust is often rooted in institutional arrangements, or the rules and norms that determine water access and allocation. Building on the tripartite framework of distributive, procedural, and interactional justice, our goal is to develop a preliminary theory of how people conceptualize environmental justice cross-culturally in relation to water institutions.

Drawing from existing environmental justice and institutional scholarship, we also explore in particular how two key dimensions of political ecology—resource scarcity and residence in a developing country affect how people perceive injustice in water institutions. We use a process of themes and subthemes analysis to examine and contrast people’s perceptions and assessments of institutional justice in relation to water in four different ecologically and cultural locations: a semi-arid, economically developing environment in Cochabamba, Bolivia; a water-rich, economically developing environment in Viti Levu, Fiji; a water-rich, economically developed environment in Piopio, New Zealand; and an arid, economically developed environment in Leveen (Phoenix, AZ), United States.

In this ethnographic study, we use face-to-face interviews with local community members in four global sites to ask three key questions:

1. What role do *institutions* play in respondents’ assessments of justice related to water?
2. To what extent are perceptions of institutional justice focused on *distributive*, *procedural*, and *interactional* issues?
3. What role do political ecological factors (*resource scarcity*, *development status*) play in how people conceptualize institutional justice?

#### Arid or semi-arid sites



Peri-urban city, Bolivia



Peri-urban city, Arizona

#### Water-rich sites



Semi-rural village, Fiji



Semi-rural town, New Zealand

#### Developing sites

#### Developed sites

### Methods

Our analysis draws upon interviews collected as one component of the Global Ethnohydrology Study, a multi-year, multi-site study examining comparative cultural knowledge of water. All data were collected in face-to-face interviews with local community members at the different sites. A single protocol was used in all four sites to enhance the comparability of results. Data were collected with a total of 135 adults: 41 in Bolivia, 37 in Fiji, 27 in New Zealand, and 30 in Phoenix. We used ethnographic observations and local knowledge to create code definitions and analyze the data. Then, we pretested and revised codes, and tested interrater agreement using Cohen’s kappa. We then conducted two qualitative analyses of the coded data. First, we grouped coded statements by site to facilitate the identification of site-specific themes dealing with distributive, procedural, and interactional justice. In the results, we discuss three kinds of themes: core themes, subthemes, and periphery themes. Second, we examine the coded results to identify trends related to resource scarcity and development status. Specifically, we grouped the coded statements on two conditions: scarcity (semi/arid vs. water-rich sites) and development status (developing vs. developed).

### Results

#### Distributive Justice Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Water quality norms  Inequality	Fiji Site Water quality rules  Equality
High Develop	US Site Water abundance  Equity	New Zealand Site Abundant Supply  Equality

#### Distributive Justice Subthemes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site None	Fiji Site None
High Develop	US Site Fair allocation within and across region	New Zealand Site Access to spring water

#### Distributive Justice Periphery Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Quality	Fiji Site Inequity  Quality
High Develop	US Site Rural vs. Metro area Natives vs. Non-native	New Zealand Site None

#### Procedural Justice Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Community-level decision-making Corruption & mismanagement	Fiji Site Community-level decision-making Corruption & mismanagement
High Develop	US Site Rural water rights Cost	New Zealand Site Rural water rights

#### Procedural Justice Subthemes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Unfair water distribution High price	Fiji Site None
High Develop	US site Long-term access Fair price	New Zealand site Fairness Cost Rural control

#### Procedural Justice Periphery Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Disorderly distribution	Fiji Site Community participation
High Develop	US Site None	New Zealand Site None

#### Interactional Justice Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Vendor’s conduct	Fiji Site Fair local self-governance
High Develop	US Site None	New Zealand Site None

#### Interactional Justice Subthemes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Vendor’s demeanor mistreatment	Fiji Site None
High Develop	US Site None	New Zealand Site None

#### Interactional Justice Periphery Themes

	Semi-arid or Arid	Water Rich
Low Develop	Bolivia Site Higher-up’s water control	Fiji Site None
High Develop	US Site None	New Zealand Site None

### Discussion

Our findings demonstrate that, for these four cross-cultural sites, institutional rules play a vital role in people’s understandings of justice in local water situations. Additionally, we found that norms were crucial to understandings of institutional injustice in the Bolivia site. Our findings highlight the ways in which institutional analysis can contribute to the theoretical development of the environmental justice literature. In cases where formal rules are absent, inadequate, or ignored, our analysis indicates the importance of examining the norms that govern resource distribution. New theories of environmental injustice in institutions should move beyond a focus on rules to develop more explicit theories of why unjust norms persist, and how they can best be reformed. We recommend a more explicit analytic focus on institutional norms. More case-specific and cross-cultural research in these directions may provide new pathways toward advancing environmental justice as a scholarly and action-oriented approach

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