Does it Matter? Constitutionalisation, Democratic Governance, and the Right to Water

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Abstract: States are urged frequently by the UN, policymakers, and activists to recognise the human right to water domestically. However, does such legal incorporation, often in national constitutions, affect water policy and the realisation of the right? While several qualitative studies report positive impacts, initial quantitative assessments have questioned the systematic positive impact of the national recognition of the human right to water. Yet, such quantitative analyses of the effects of constitutional rights to water often overlook important mediating policy factors. We test specifically whether strong democratic governance is a significant condition for ensuring that the constitutional recognition of the human right to water has concrete outcomes. Results of a multivariate regression analysis on a global sample of 123 states over a 15-year period provide two findings. First, the constitutionalisation of the right to water and other economic, social, and cultural rights (ESCRs), in national constitutions alone is not associated with material benefits related to the human right to water. Second, the constitutionalisation of those rights can have positive material benefits for water access when the rights are foregrounded in democratic governance.

Keywords: water; human rights; democratic governance; sustainable development goals; constitutionalisation of rights

1. Introduction

In its ground-breaking General Comment No. 15 (2002), the UN Committee on Economic and Social and Cultural Rights (CESCR) urged states to recognise domestically the human right to water [1]. The Committee’s argument was largely instrumental: incorporating the right in the domestic legal order could ‘significantly enhance the scope and effectiveness of remedial measures [1]’. Since then, the Committee has upped the ante, strongly encouraging states to incorporate the Covenant rights in the domestic legal order [2], whether through the constitution or ordinary law [3], and criticized specific states that fail to do so [4].

The Committee has not been alone in pushing states in this direction. Uruguay’s constitutional inclusion of the human right to water reform in 2004 has had a “ripple” effect across the globe [5]. Activists in many countries—from Bolivia, Ecuador, El Salvador, Colombia and Mexico to Germany, France, Spain, Norway, and the USA—sought to enshrine the right to water as a constitutional or legislative right. These efforts were given further support in 2010 when the UN General Assembly declared ‘the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights [6].’ Today, at least 39 countries have included the human right to water in their constitution [7].
An important question is whether such recognition constitutes more than a legal gloss. Does placing the human right to water in a constitution make a difference for efforts on the ground to improve access to water? An initial study by Anand answered in the negative [8]. Assessing yearly trends in six countries that recognised the right to water in their constitutions in the 1990s, he found that constitutional recognition had no observable effect on access. However, this study contained neither a meaningful comparison with non-recognition countries nor multivariate regression analysis that controlled for other causal influences.

Large-N multivariate methods are more common, though, in broader quantitative work on the impact of other constitutionalised human rights, including social rights [9]. To date, the results of these studies are equivocal (see discussion in section 2). However, a persistent problem with many, but not all, of these studies is that they are theoretically underdeveloped. The role of vital mediating policy factors is often neglected and interactive variables are not tested. For instance, in the case of the human right to water, democratic governance, electoral participation, effective resource allocation, and strong environmental protection measures may be necessary or important factors in achieving realisation. Indeed, the CESCR itself stated that ‘good governance is essential to the effective implementation of all human rights, including the realisation of the right to water [10].’ Thus, a realistic assessment of the impact of the right to water should place its constitutionalisation into a carefully developed theoretical framework that takes account of the necessary conditions for its success.

This study asks under what conditions constitutional recognition of the human right to water will improve access in practice. Is mere recognition enough to influence policy and implementation or is realisation strongly dependent on democratic governance? We adopt a quantitative approach to answering this question by testing the influence of democratic governance in conjunction with rights constitutionalisation across 123 countries. We examine three measures of democratic governance with three operationalisations of rights constitutionalisation and find that rights alone have little impact on realizing the human right to water. Instead, our results suggest that the concurrent existence of democratic governance is necessary to allow rights to be effective.

We proceed as follows. In the next section, we set our expectations according to a theory of water access within the context of current literature. We then provide a description of our cross-country dataset, the multivariate regression analysis, a discussion of results and finally a conclusion.

1.1. Constitutionalising the Right to Water: Theory and Literature

1.1.1. Theorising Impact: Direct Effects

Why would we expect an abstract constitutional reform to improve access to water? There might be three reasons—material, political and symbolic—at play. The first ground—material—is often viewed through a judicial lens. The right to water may be made enforceable in courts and permit individuals, communities, and groups to challenge noncompliance [11]. Indeed, the Committee notes expressly that one of the major benefits of national recognition is that it ‘enables courts to adjudicate violations of the right to water [1].’ In the last few decades, courts have increasingly accepted or appropriated powers of judicial review over economic and social rights and the number of cases has expanded considerably [12-14]. This development has been accorded strong support by the CESCR, which stated that ‘While the general approach of each legal system needs to be taken into account, there is no Covenant right which could not, in the great majority of systems, be considered to possess at least some significant judicially enforceable dimensions [15].’ For the human right to water, the number of court cases is limited [16], but the risk of court action remains. Accountability can occur within the shadow of the law, as states ‘constitution-proof’ their policies [17].

The second reason is political. Constitutional rights are designed to inflect domestic politics [11]. They act as a moral and legal reminder to governing institutions about the articulation and implementation of their obligations to respect, protect and fulfil the right [18]. More importantly,
they can be used by citizens, politicians and bureaucrats to legitimate and shape political arguments [19]. An illustrative example is the Mazibuko case in South Africa. The right to water, as contained in the constitution, was not only invoked in a legal challenge to the minimum level of free water and use of prepaid meters but was central in an accompanying grassroots political campaign [20]. The CESCR also recognises the political value of the right when it states that, ‘In order to create a favourable climate for the realisation of the right, states should take appropriate steps to ensure that the private business sector and civil society are aware of, and consider the importance of, the right to water in pursuing their activities [2].’

The final type of causal mechanism is symbolic. Recognition of the right may have acculturative effects [21]. The expressive role of law may change social meanings of acceptable behavior [22], affecting prevailing social norms, which exert significant psychological power [21]. From a topic that attracted previously little attention, the right to water became in the first two decades of the 21st Century the subject of widespread agreement and use (with a six-fold increase in number of daily Google hits between 2005 and 2010), although with ongoing contestation over issues such as privatisation and tariff-setting prices [16]. The first international recognition of the right by states came in 1977 at the United Nations (UN) Water Conference [23] but from 1999 there has been a steady cascade of international and regional standards. Some authors claim that the human right to water has helped reframe what constitutes acceptable behaviour, particularly on issues of access and affordability [24]. More broadly, studies show how human rights norms can spread and be integrated in existing culture [25-26].

The current evidence on the impacts of the human right to water is still only emerging. There have been successful legal cases on access to communal water reserves (Botswana) [27], halting of privatisation (Germany), protection of groundwater resources (India), and remedial access to water supplies (Argentina) [16]. Yet, success varies. Applicants have lost in challenges to pre-paid meters and restrictive free water policies (South Africa), to privatisation efforts until very recently (Indonesia), and attempts to ensure prior and informed consent over use of water resources in indigenous territories (Chile). Using discourse analysis, Wills claims that the right to water has been significant in countering hegemonic narratives that only place value on water’s economic value or excessively privilege efficiency concerns in policy trade-offs [28]. However, others counter that the invocation and adoption of the right to water in policy has only led to technical adjustments, rather than more transformative approaches [29].

In terms of quantitative analysis, Anand is the first and seemingly only scholar to attempt to measure the impact of the constitutional recognition of the human right to water [8]. He compares the years 1995, 2000, and 2004 across six measures of the right to water: both basic and household access nationally and these two measures in urban and rural areas (urban basic, urban household connections, rural basic, and rural household connections). The trend analysis contrasts six countries that recognised the right to water with four mostly neighbouring countries that did not and concludes that constitutional recognition had no observable effect. However, the absence of multivariate regression analysis across a larger sample makes results difficult to generalise. Some of these rights-recognising countries, e.g., Ethiopia, have had increased progress in access to water adjusted for development status [30].

In light of the theoretical expectations concerning the mere adoption of the human right to water, we can hypothesise that:

**H1(a):** The constitutionalisation of the human right to water should result in greater access to water.

However, it is important to recall that the human right to water in many jurisdictions is not necessarily a transformative legal right in and of itself. This is because much of its content, as framed in a minimalistic and universalist fashion by the UN CESCR, can be subsumed under other human rights. The CESCR defined the right as covering the personal and household uses of ‘consumption, cooking, personal and domestic hygienic requirements [1].’ To be sure, the human right to water as interpreted in General Comment No. 15 provides an overarching vision of the content of the right. No single other social or human right captures all its dimensions. Nonetheless, many authoritative
interpretations of the rights to health and housing cover numerous aspects of the human right to water. For example, the CESCR stated in General Comment 14 that accessibility for the right to health ‘implies that medical services and underlying determinants of health, such as safe and potable water and adequate sanitation facilities, are within safe physical reach, including in rural areas [31].’ Indeed, General Comment No. 14 mentions water ten times. Claimants in national litigation also frequently invoke the rights to health, housing and education in cases concerning access to water [16].

Thus, we can also hypothesise that:

**H1(b):** The constitutionalisation of Economic, Social, and Cultural Rights (ESCRs) should result in greater access to water.

### 1.2. Theorising Impact: Conditional Impact

Can we consider such constitutional recognition in a vacuum? Is it reasonable to expect that the mere inclusion in a constitution is sufficient? To begin, numerous potential background factors, over which states have control or no control, can heighten the realisation of the human right to water. For example, ensuring there are environmental protections, a system for provision of subsidies, sufficient engineering and technical competence, and even low levels of inequality [32], are all likely to enhance the rapid realisation of the human right to water. In a cross-country study in 2012, Anderson and Langford confirmed the important role of GDP per capita and various ‘capacity’-related factors such as total population (millions), urbanisation, and low dependency ratio [30]. However, they find that some policy factors, such as tax revenue as a share of GDP, years of schooling, and government effectiveness were all positively correlated with access, although only government effectiveness was statistically significant.

However, here we are interested in identifying the factors that would enhance the constitutional recognition of the right. Given our theorising above about the material, political, and symbolic drivers of recognition impact, we posit that the political and legal environment is central.

A simple and common way to conceptualise this political/legal context is to look at democracy. In the literature, democracies generally are thought to provide better access to public goods. They are cited as superior in both spending on, and provision of, public goods [33-36]. Further, given the local nature of goods provision, some scholars contend that greater levels of local democracy will result in better public goods outcomes [37-38]. However, more recent studies have illustrated that once controlling for development, democracies are little better on average than autocracies in public goods provision [39-42].

Similarly, the bulk of the human rights literature asserts that democracies respect human rights to a greater degree than their autocratic counterparts such that increases in democracy will result in increases in respect for human rights [43-46]. However, literature has begun to assert caveats to this general finding. Some scholars point to a non-linear relationship between democracy and human rights, suggesting that the states in the middle of the institutional continuum have the worst human rights records [47]. More specifically, Regan and Henderson find support for a non-linear relationship between human rights and democracy in developing states [48]. The authors suggest that instead of regime type, the more important determinant of respect for human rights is the presence or absence of threats in the form of credible challengers to a regime. Supporting these findings, Cingranelli and Richards claim that rather than democracies more generally, it is the most liberal and consolidated regimes that illustrate greater respect for human rights [49]. However, given that these studies predominantly conceive of respect for human rights as freedom from physical integrity violations, they likely tell us little about how different political regimes will comply with various constitutionalized economic and social rights.

Thus far, the extant research suggests that instead of all democracies, we should expect the most consolidated and liberal regimes to illustrate increases in respect for human rights and younger or less institutionalized democracies to show little advantages in human rights compared with autocracies. And, as the literature points out, the mechanism at work in these liberal, consolidated democracies that increases respect for human rights is accountability [50-53]. Therefore, rather than
employing a minimalist standard of democracy, we instead turn to indicators of democratic governance.

Democratic governance, generally understood as the norms and practices surrounding participatory government, are likely at the root of why states do or do not respect human rights. An important caveat here is that democratic governance is not synonymous with democracy. Indeed, many democracies score poorly on rule of law, judicial independence, and civil society indices. For instance, Burundi has fallen in the lowest 1% of the rule of law measure from V-Dem since 2014 but nonetheless meets minimal standards of democracy. States including Honduras, the Dominican Republic, Guatemala, Macedonia, Moldova, Mali, Kenya, and Thailand all fall in the bottom 50% of states on this index and are nonetheless democracies. Similarly, many autocracies score a good deal higher than democracies on the same index. For instance, Seychelles, Botswana, and Singapore score among the highest 25% of states on the same rule of law index. However, while measures of democratic governance are likely useful in predicting who will comply with lower-level human rights, there is little quantitative research that directly addresses this.

Further, a focus on democratic governance can also be found throughout General Comment No. 15. Take the following two paragraphs (paras. 48 and 49) that speak to the broader governance framework in general and the space for citizen participation in particular:

‘The formulation and implementation of national water strategies and plans of action should respect, inter alia, the principles of non-discrimination and people’s participation. The right of individuals and groups to participate in decision-making processes that may affect their exercise of the right to water must be an integral part of any policy, programme or strategy concerning water. Individuals and groups should be given full and equal access to information concerning water, water services and the environment, held by public authorities or third parties.

The national water strategy and plan of action should also be based on the principles of accountability, transparency, and independence of the judiciary, since good governance is essential to the effective implementation of all human rights, including the realisation of the right to water [1].’

As one author stated: ‘the right-based approach establishes the obligations of states to ensure that basic water needs are met and empowers communities to claim their right; it identifies and addresses the root causes for lack of access to water; and it places people at the centre of the development process [54].’

The importance of considering the role of democratic governance also becomes apparent when we view studies examining the impact of the constitutionalisation of social rights. Studies that neglect the interactive role of democratic governance are more likely to find that constitutionalisation has little impact [55-56]. However, Kavanagh’s study of the effect of the ‘right to health’ in national constitutions across 144 countries first found empirical evidence of a positive role of the right to health. Second, and related, he found that ‘institutional environments shaped by a right to health encourage more and better delivery of health services, which in part account for positive impact on health outcomes [57].’ Likewise, Matsura finds in a study of 157 countries that the introduction of a ‘right to health in a national constitution was significantly associated with reductions in both mean infant and under-five mortality rates’ and that this ‘effect was large in countries with high scores for democratic governance [58].’

The potential importance of democratic governance on the human right to water is also apparent from initial studies, even if limited by data, scope, and focus. Anand found an apparent positive correlation between improved access to water and World Bank governance indicators of voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption [8]. Krause concludes that specific water governance (including user participation and presence of civil society groups) is highly significant (and more important than GDP), although the presence of private-public partnerships was insignificant [59]. Finally, Wolf affirms that a number of variables not connected with resource capacity are significant such as freedom of the press, although the overall effect is limited [60].
We, therefore, hypothesise that:

**H2:** Rights constitutionalisation will only result in a positive correlation with water access (i.e., the right to water) in an environment characterised by democratic governance.

2. Materials and Methods

To test our expectations, whether constitutionalisation of water/social rights has tangible benefits on its own and if democratic governance must exist for these rights to be beneficial, we examine the effects of both on basic water access. We employ a global, cross-sectional sample of 123 countries, examining country-years from 2000–2015. Our dependent variable is continuous, and we therefore employ OLS regression; the descriptive statistics for all variables are set out in Table 1. The following sections detail our empirical strategy and robustness tests.

### Table 1. Descriptive Statistics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Water</td>
<td>83.557</td>
<td>19.705</td>
<td>16.735</td>
<td>100.000</td>
<td>Percent of population with access to basic water</td>
</tr>
<tr>
<td>Total ESCRs</td>
<td>7.706</td>
<td>4.693</td>
<td>0.000</td>
<td>16.000</td>
<td>Total number (count) of aspirational or judicially enforceable ESCRs</td>
</tr>
<tr>
<td>Total Judicially enforceable</td>
<td>5.186</td>
<td>5.110</td>
<td>0.000</td>
<td>16.000</td>
<td>Total number (count) of judicially enforceable ESCRs</td>
</tr>
<tr>
<td>Food and Water</td>
<td>0.222</td>
<td>0.415</td>
<td>0.000</td>
<td>1.000</td>
<td>Dichotomous: right to food and water</td>
</tr>
<tr>
<td>Health</td>
<td>0.702</td>
<td>0.457</td>
<td>0.000</td>
<td>1.000</td>
<td>Dichotomous: right to health</td>
</tr>
<tr>
<td>Rule of Law</td>
<td>0.550</td>
<td>0.309</td>
<td>0.021</td>
<td>0.998</td>
<td>Weighted measure of rule of law</td>
</tr>
<tr>
<td>Civil Society Participation</td>
<td>0.684</td>
<td>0.228</td>
<td>0.021</td>
<td>0.989</td>
<td>Weighted measure of degree of civil society participation</td>
</tr>
<tr>
<td>High Court Independence</td>
<td>0.335</td>
<td>1.445</td>
<td>-3.205</td>
<td>3.471</td>
<td>Weighted measure of degree of high court independence</td>
</tr>
<tr>
<td>Regime Type</td>
<td>0.610</td>
<td>0.488</td>
<td>0.000</td>
<td>1.000</td>
<td>Dichotomous: Regime type (autocracy/democracy)</td>
</tr>
<tr>
<td>GDP per capita (ln)</td>
<td>8.242</td>
<td>1.598</td>
<td>4.664</td>
<td>12.174</td>
<td>Natural log of gross domestic product per capita</td>
</tr>
<tr>
<td>EPI</td>
<td>56.451</td>
<td>21.589</td>
<td>1.000</td>
<td>180.000</td>
<td>Weighted index of environmental performance considering environmental protection and vitality</td>
</tr>
<tr>
<td>Ethnic Fractionalization</td>
<td>0.408</td>
<td>0.279</td>
<td>0.001</td>
<td>0.925</td>
<td>Herfindahl-Hirschman index of degree of ethno-linguistic fractionalization</td>
</tr>
<tr>
<td>Population (ln)</td>
<td>15.482</td>
<td>2.208</td>
<td>9.151</td>
<td>21.05</td>
<td>Natural log of population</td>
</tr>
<tr>
<td>% Urban</td>
<td>55.827</td>
<td>23.319</td>
<td>8.246</td>
<td>100</td>
<td>Percent of population in urban environment</td>
</tr>
<tr>
<td>Area (ln)</td>
<td>2.539</td>
<td>0.190</td>
<td>1.515</td>
<td>2.870</td>
<td>Natural log of square kilometers of state</td>
</tr>
<tr>
<td>% Above 65 Observations</td>
<td>7.562</td>
<td>5.374</td>
<td>0.686</td>
<td>27.576</td>
<td>Percent of the population age 65 or older</td>
</tr>
</tbody>
</table>

2.1. Dependent Variable

For the dependent variable, we utilise a measure from the Joint Monitoring Programme for Water Supply, Sanitation, and Hygiene (JMP) that records the percentage of a state’s population with access to at least basic drinking water in a given country-year. The JMP estimates water access and quality on a ‘ladder’ where improved water is defined as water that is accessible on premises, available when needed, and free from contamination. Basic water then is defined as any form of access that does not meet at least one of the above three conditions but is nonetheless available within 30 min or less including queuing for a round-trip. Further down this ‘ladder’ is limited, unimproved, and surface water [61]. We chose to utilise the basic water measure for two reasons. First, we believe that the JMP definition of basic water is in line with the minimum content of obligations in General Comment 15, including physically accessible requirements. Second, while safely managed drinking water is obviously preferable to basic water, the lack of data across all countries may raise bias concerns.

2.2. Independent Variables

Next, we utilise four primary measures of constitutionalisation of rights, with data derived from the Toronto Initiative on Economic and Social Rights (TIESR) [7]. First, to understand the
broader rights environment, we utilise a measure of the total number of ESCRs in a state’s constitution, adding all judicially enforceable and aspirational ESCRs. Second, we include a count of the total number of judicially enforceable ESCRs. Third, we utilise a dichotomous measure of the right to food and water (FOWA) with 0 signifying no right and 1 signifying either an aspirational or judicially enforceable right in a state’s constitution. Food forms a multi-dimensional relationship with water and some consider the two rights to be inseparable [62-63]. Finally, we utilise a dichotomous measure of the right to health, with 0 signifying no right and 1 signifying either an aspirational or judicially enforceable right in a state’s constitution. Here we assert that access to water is inextricably linked to the right to health.

Turning to democratic governance, we examine three measures. First, we inspect a core measure, rule of law, derived from the V-Dem database. This measure records a number of political freedoms including judicial independence, rule of law in civil and criminal matters, control of the police, protection from political terror, unjust imprisonment, and access to equal protection [64]. The measure is ordinal, ranging from 0 to 16, with states at the high end enjoying the highest degrees of rule of law. Second, measuring the degree of civil society participation, we again use a measure from V-dem, the civil society participation index. The measure asks the coder, ‘Are major CSOs routinely consulted by policymakers; how large is the involvement of people in CSOs; are women prevented from participating; and is legislative candidate nomination within party organisation highly decentralized or made through party primaries? [65]’ The index is then created utilizing Bayesian factor analysis and results in an ordinal measure from 0 to 1. The final measure is high court independence. The V-Dem question asks, ‘When the high court in the judicial system is ruling in cases that are salient to the government, how often would you say that it makes decisions that merely reflect government wishes regardless of its sincere view of the legal record? The answers then include, always (0), usually (1), about half the time (2), seldom (3), and never (4). The answers to the questions are recorded ordinarily and then converted to interval using the measurement model [66].

Each of these terms is measured independently and later interacted with measures of total ESCRs and specific rights to food and water and health. Each model describes what effect, if any, the constitutionalisation of either a rights environment or a specific right, in conjunction with the given democratic governance conceptualisation, has on water access. Therefore, in Table 2, utilizing naïve models and thus examining the stand-alone effects of rights, we include all four conceptualisations of rights recognition. In models examining interactive effects we focus on three rights conceptualisations, leaving out the total judicially enforceable ESCR measure.

### Table 2. Economic and Social and Cultural Rights (ESCRs) & Basic Water Access, 2000–2015.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(1) Total Judicially Enforceable</th>
<th>(2) All ESCRs</th>
<th>(3) Food and Water</th>
<th>(4) Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights</td>
<td>0.19694 (0.19720)</td>
<td>−0.09369 (0.24100)</td>
<td>−1.35106 (2.41350)</td>
<td>−2.46518 (2.53228)</td>
</tr>
<tr>
<td>Regime Type</td>
<td>0.57607 * (0.29011)</td>
<td>0.58765 * (0.29020)</td>
<td>0.59043 * (0.29040)</td>
<td>0.58275 * (0.28985)</td>
</tr>
<tr>
<td>GDP per capita (ln)</td>
<td>2.10464 ** (0.14605)</td>
<td>2.10000 ** (0.14616)</td>
<td>2.10086 ** (0.14615)</td>
<td>2.10235 ** (0.14598)</td>
</tr>
<tr>
<td>Population (ln)</td>
<td>6.03296 ** (0.64516)</td>
<td>6.04406 ** (0.64964)</td>
<td>6.03526 ** (0.64729)</td>
<td>6.07302 ** (0.64752)</td>
</tr>
<tr>
<td>% Above 65</td>
<td>−0.47095 ** (0.10124)</td>
<td>−0.46863 ** (0.10128)</td>
<td>−0.47047 ** (0.10135)</td>
<td>−0.47065 ** (0.10127)</td>
</tr>
<tr>
<td>% Urban</td>
<td>0.35818 ** (0.35643)</td>
<td>0.35657 ** (0.35657)</td>
<td>0.35540 ** (0.35540)</td>
<td></td>
</tr>
</tbody>
</table>
Area (ln) & $-52.32158^{**}$ & $-51.75983^{**}$ & $-51.45943^{**}$ & $-51.35561^{**}$ \\
 & (10.38278) & (10.36330) & (10.32847) & (10.41162) \\
EPI & $-0.05128$ & $-0.05063$ & $-0.05014$ & $-0.05188$ \\
 & (0.03449) & (0.03449) & (0.03452) & (0.03449) \\
Observations & 1323 & 1323 & 1323 & 1323 \\

Standard errors in parentheses. $+p<0.1$ $^{*}p<0.05$ $^{**}p<0.01$.

### 2.3. Controls

In each model, we control for measures commonly found in the human rights and public goods literature. First, we control for regime type utilizing a dichotomous indicator of democracy and non-democracy from the Rulers, Elections, and Irregular Governance Dataset (REIGN) [67]. Stemming from the literature’s positive assessments of public goods provision in democracies, we expect regime type to have a positive effect on basic water access [34-36]. Next, we control for the natural log of GDP per capita, derived from the World Bank. Given that wealthier states have more resources to provide basic goods, we expect both measures to have a positive effect on basic water access. Finally, we control for environmental factors with the Environmental Performance Index (EPI) from Yale University [68]. The EPI issues each country-year a score based on several indicators of environmental health and ecosystem vitality. Higher scores indicate greater environmental performance.

Next, we utilise five demographic measures, largely derived from the World Bank (with the exception of Ethno-Linguistic Fractionalisation). Beginning with ethnic fractionalisation, we account for the heterogeneity of a given state’s population. According to the extant literature, states with more homogenous populations are better able to provide adequate public goods due to lower commitment and cooperation costs [69-70]. This measure is derived from the Ethnic Power Relations database [71]. Second, we control for the natural log of total population with the expectation that a larger population should make provision of goods more difficult and, thus, have a negative effect on basic water. Third, we account for urban population as a percent of the total, reasoning that a more urban population may increase water access by removing impediments including distance and rough terrain, for instance. Related, we account for the natural log of land area with the expectation that larger states should make water access more difficult, lowering access. Fifth, we control for the proportion of the population over the age of 65 with the expectation that an older population should have a negative effect on water access given the relatively smaller workforce.

Having described our data, the following section presents our empirical results and discusses our findings.

### 3. Results

Table 2 displays four naïve models examining the stand-alone effects of rights recognition in constitutions on basic water access. Model 1 examines a count of the total number of judicially enforceable ESCRs, model 2 a count of all aspirational and judicially enforceable ESCRs, model 3 examines constitutionalisation of the right to food and water, and model 4 constitutionalisation of the right to health. At first glance, we can see that none of the rights terms achieve conventional levels of significance. The coefficients are largely negative, with the exception of the total number of judicially enforceable ESCRs, though again none reach significance. This sheds considerable doubt on both hypotheses 1a and b, which suggested that the constitutionalisation of specific rights (food and water and health) and/or the number of ESCRs (rights environment) alone should produce tangible benefits. In light of these results, we move to testing hypothesis 2 below with interactions between rights constitutionalisation and measures of democratic governance.

#### 3.1. Rule of Law
Table 3 examines the effects of rule of law and rights constitutionalisation on water access with four models each employing OLS regression. Model 5 examines the stand-alone measure of rule of law, Model 6 an interaction of the total number of ESCRs in a constitution (both judicially enforceable and aspirational), model 7 an interaction of rule of law and constitutionalisation of the right to food and water, and model 8 an interaction of rule of law and constitutionalisation of the right to health.

Table 3. Rule of Law, ESCRs, & Basic Water Access, 2000–2015.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(5) Rule of Law</th>
<th>(6) Rule of Law X Total ESCRs</th>
<th>(7) Rule of Law X Food and Water</th>
<th>(8) Rule of Law X Health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1.06907)</td>
<td>(3.59666)</td>
<td>(1.21785)</td>
<td>(3.35374)</td>
</tr>
<tr>
<td>Rights</td>
<td>-</td>
<td>-0.48994</td>
<td>-5.45526 *</td>
<td>-11.95382 **</td>
</tr>
<tr>
<td></td>
<td>(0.32872)</td>
<td>(2.63668)</td>
<td>(3.56470)</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>0.66856 *</td>
<td>8.86160 **</td>
<td>14.09840 **</td>
</tr>
<tr>
<td></td>
<td>(0.32692)</td>
<td>(2.22840)</td>
<td>(3.48078)</td>
<td></td>
</tr>
<tr>
<td>Regime Type</td>
<td>0.16622</td>
<td>0.15831</td>
<td>0.21776</td>
<td>0.14814</td>
</tr>
<tr>
<td></td>
<td>(0.31479)</td>
<td>(0.31461)</td>
<td>(0.31369)</td>
<td>(0.31274)</td>
</tr>
<tr>
<td>GDP per capita (ln)</td>
<td>2.05185 **</td>
<td>2.04569 **</td>
<td>2.06539 **</td>
<td>2.03282 **</td>
</tr>
<tr>
<td></td>
<td>(0.14623)</td>
<td>(0.14607)</td>
<td>(0.14554)</td>
<td>(0.14537)</td>
</tr>
<tr>
<td></td>
<td>(4.17390)</td>
<td>(4.21942)</td>
<td>(4.14365)</td>
<td>(4.21458)</td>
</tr>
<tr>
<td>Population (ln)</td>
<td>6.12443 **</td>
<td>6.26747 **</td>
<td>6.09709 **</td>
<td>6.28245 **</td>
</tr>
<tr>
<td></td>
<td>(0.64317)</td>
<td>(0.65137)</td>
<td>(0.64268)</td>
<td>(0.64431)</td>
</tr>
<tr>
<td>% Urban</td>
<td>0.35869 **</td>
<td>0.35818 **</td>
<td>0.35737 **</td>
<td>-0.47178 **</td>
</tr>
<tr>
<td></td>
<td>(0.02988)</td>
<td>(0.03006)</td>
<td>(0.02982)</td>
<td>(0.10065)</td>
</tr>
<tr>
<td>% Above 65</td>
<td>-0.48915 **</td>
<td>-0.47372 **</td>
<td>-0.46951 **</td>
<td>0.36289 **</td>
</tr>
<tr>
<td></td>
<td>(0.10101)</td>
<td>(0.10140)</td>
<td>(0.10071)</td>
<td>(0.02987)</td>
</tr>
<tr>
<td>Area (ln)</td>
<td>-51.89811 **</td>
<td>-52.04700 **</td>
<td>-51.95470 **</td>
<td>-49.83476 **</td>
</tr>
<tr>
<td></td>
<td>(10.32356)</td>
<td>(10.39861)</td>
<td>(10.25360)</td>
<td>(10.38635)</td>
</tr>
<tr>
<td>EPI</td>
<td>-0.04975</td>
<td>-0.05043</td>
<td>-0.04438</td>
<td>-0.06225</td>
</tr>
<tr>
<td></td>
<td>(0.03435)</td>
<td>(0.03430)</td>
<td>(0.03421)</td>
<td>(0.03427)</td>
</tr>
<tr>
<td>Observations</td>
<td>1323</td>
<td>1323</td>
<td>1323</td>
<td>1323</td>
</tr>
</tbody>
</table>

Standard errors in parentheses. + $p < 0.1$ * $p < 0.05$ ** $p < 0.01$.

Beginning with model 5, we examine the stand-alone effects of rule of law on water access and find a positive, significant correlation. This suggests that democratic governance is positively correlated with access. Next, turning to model 6, the constitutive rule of law term is negative; however, it does not reach traditional levels of significance. The constitutive rights term in model 6, accounting for all ESCRs, is negative, although it does not reach significance. Finally, the interaction is positive and significant suggesting that as the level of rule of law increases, the negative effect of the total number of rights becomes positive. These results offer strong support for hypothesis 2 suggesting that rights become more effective in environments characterized by democratic governance. The marginal effects of model 6 are explored in Figure 1.

Figure 1 reports the marginal effects of rule of law and the total number of aspirational and judicially enforceable ESCRs on water access rates utilizing the Grinter command. Moving from left to right, the x-axis represents the number of ESCRs. The y-axis, from bottom to top, illustrates the coefficient for the percent of the population with access to basic water. At the lowest levels of ESCRs, characterizing national constitutions that lack any or have few ESCRs, the coefficient is largely negative. Just beyond the mean of ESCRs, about 9, the coefficient becomes positive and significant,
again offering support for hypothesis 2. In short, the positive correlation between rights and water access becomes stronger when rule of law is greater.

![Figure 1. Marginal Effects of Rule of Law and ESCRs on Access.](image1)

Next, turning to model 7, we examine the effects of a right to water and food in conjunction with rule of law. Rule of law on its own is positive, though not significant. Next, the constitutive rights term, indicating constitutionalisation of the right to food and water, is negative and significant. This suggests that at low levels of rule of law, the right to food and water is negatively correlated with water on access. However, turning to the interaction term we can see that the coefficient is positive and significant, offering further support for hypothesis 2. The results suggest that the negative effect of a right to food and water on access wanes as rule of law deepens, becoming positive when the right exists in a constitution in either aspirational or judicially enforceable forms. Figure 2 plots the marginal effects of the interaction.

![Figure 2. Marginal Effects of Rule of Law and Right to Food and Water on Access.](image2)

Moving from left to right, the x-axis represents the degree of rule of law in a state with 0 being the lowest and 1 the highest. The y-axis represents the percentage of the population with access to basic water. The coefficient lines plot, separately, the interaction for states with no right (solid line) and the line for those with either an aspirational or judicially enforceable right (dotted line) as it
moves along the range of rule of law. While the interaction is positive and significant, the confidence intervals nonetheless overlap. However, overlapping confidence intervals do not always suggest a lack of statistically significant differences at the mean. Importantly, as rule of law increases, states with no right see little increase in water access. Alternatively, those with either an aspirational or judicially enforceable right see positive effects with increases in rule of law. This again lends considerable support to hypothesis 2, suggesting that the positive effects of rights on water access become stronger as rule of law deepens.

Finally, examining model 8, we can see first that the constitutive rule of law term is both negative and significant. When the right to health is not enshrined in a constitution, there is a negative correlation between rule of law and water access. Next, the rights term, here representing the right to health, is also negative and significant. This suggests that when rule of law is weak the effect of constitutionalisation of a right to health on water access is negative. Finally, the interaction term is positive and significant at the 0.01 level. In total, the results of Table 2 lend robust support to hypothesis 2. The interaction term in model 8 is plotted in Figure 3.

![Figure 3](image.png)

**Figure 3. Marginal Effects of Rule of Law and Right to Health on Access.**

Figure 3 plots the interaction of a right to health and rule of law. The x-axis represents the range of rule of law values and the y-axis, the percentage of a population with access to basic water. The solid line plots the interaction coefficient for states with no right to health and the dotted line plots those with either an aspirational or judicially enforceable right. Beginning at the lowest levels of rule of law, states with no right to health have considerably higher rates of access compared with those with a right, about 94% and 82%, respectively. As rule of law increases, however, states with no right see a marked decline while those with a right see an increase. At the lowest levels of rule of law, states with no right to health achieve about 94% access. Moving to the highest levels of rule of law these states then have about 84% access. States with a right move from 82% at the low end to about 86% at the highest levels of rule of law. Again, while at higher levels of rule of law confidence intervals overlap, this does not suggest a lack of statistically significant differences at the mean. Taken together, Table 3 offers strong support for hypothesis 2.

### 3.2. Civil Society Participation

In Table 4, we examine the interactive effects of the level of civil society participation. The models are arranged the same as those in Table 2, with model 9 illustrating the stand-alone effects of civil society participation, model 10 the interaction of civil society participation with all ESCRs, model 11 with the right to food and water, and model 12 with the right to health.
Beginning with model 9 in Table 4, we examine the stand-alone effects of civil society participation. The coefficient in model 9 is positive and significant at the 0.1 level, suggesting that civil society participation alone is positively correlated with water access. Next, in model 10, we examine the interaction of civil society participation and the total number of ESCRs. The constitutive rights term and civil society measures are both positive, though not significant. Further, the interaction fails to reach significance at traditional levels. Next, model 11 examines the interaction of civil society participation and constitutionalisation of the right to food and water. Similar to model 10, neither the civil society, rights, or interaction terms reach significance.

Finally, examining model 12, we can see that civil society participation is negative and significant, suggesting that when the right to health is absent from a constitution, the civil society participation is negatively correlated with water access. Next, the right to health is similarly negative and significant. This suggests that when civil society participation is low, constitutionalization of the right to health, either aspirational or judicially enforceable, is negatively correlated with basic water access. Turning to the interaction term, the coefficient is positive and significant. This suggests that as civil society participation increases, the negative effect of the right to health wanes, becoming positive at higher levels of participation. Here again, the results of model 12 offer robust support to hypothesis 2.

Figure 4 plots the interaction term. The x-axis represents the degree of civil society participation, with 0 being the lowest and 1 being the highest. The y-axis represents the proportion of the population with access to basic water. States with no right to health (solid line) begin at a higher rate of water access, about 90%, than those with an aspirational or judicially enforceable right (dotted line) at about 82%. However, as we move from left to right on the x-axis, we can see that...
states lacking a right suffer decreases in water access while states with a right see increases. Figure 4 then offers further support to hypothesis 2, suggesting that the inclusion of democratic governance increases rights efficacy.

Figure 4. Marginal Effects of Civil Society Participation and Right to Health on Access.

3.3. Judicial Independence

Table 5 below presents the results of four models examining the separate and interactive effects of high court independence, following the same format as the previous measures of democratic governance. Beginning with model 13, high court independence on its own has negligible effects on water access with the court measure reporting positive, though not significant, effects. Moving to model 14, a similar pattern is evident with no effect of high court independence or the constitutive rights term. Further, the interaction term, while negative, fails to achieve statistical significance.

Table 5. High Court Independence, ESCRs, & Basic Water Access, 2000–2015.

<table>
<thead>
<tr>
<th>Variable</th>
<th>(13) High Court Independence</th>
<th>(14) HCl X Total ESCRs</th>
<th>(15) HCl X Food and Water</th>
<th>(16) HCl X Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Court Independence</td>
<td>0.01568 (0.14269)</td>
<td>0.71261 (0.50591)</td>
<td>0.47232 * (0.22174)</td>
<td>-1.59722 * (0.63582)</td>
</tr>
<tr>
<td>Rights</td>
<td>-</td>
<td>-0.03654 (0.24374)</td>
<td>-1.20509 (2.40692)</td>
<td>-4.43268 * (2.64660)</td>
</tr>
<tr>
<td>Interaction</td>
<td>-</td>
<td>-0.06117 (0.04248)</td>
<td>-0.77848 ** (0.28963)</td>
<td>-1.59722 * (0.63582)</td>
</tr>
<tr>
<td>Regime Type</td>
<td>0.57849 * (0.29748)</td>
<td>0.60628 * (0.29802)</td>
<td>0.70189 * (0.30031)</td>
<td>1.68721 ** (0.65160)</td>
</tr>
<tr>
<td>GDP per capita (ln)</td>
<td>2.10101 ** (0.14629)</td>
<td>2.08300 ** (0.14677)</td>
<td>2.09024 ** (0.14607)</td>
<td>2.10440 ** (0.14587)</td>
</tr>
<tr>
<td>Fractionalisation</td>
<td>-20.18647 ** (4.17109)</td>
<td>-20.16225 ** (4.18253)</td>
<td>-20.07906 ** (4.15704)</td>
<td>-20.77857 ** (4.20892)</td>
</tr>
<tr>
<td>Population (ln)</td>
<td>6.00284 ** (0.64418)</td>
<td>5.99996 ** (0.64983)</td>
<td>6.03159 ** (0.64597)</td>
<td>6.18380 ** (0.64817)</td>
</tr>
<tr>
<td>% Urban</td>
<td>0.35796 ** (0.03000)</td>
<td>0.35621 ** (0.03016)</td>
<td>0.35089 ** (0.03011)</td>
<td>-0.46394 ** (0.10115)</td>
</tr>
<tr>
<td>% Above 65</td>
<td>-0.46829 ** (0.47391)</td>
<td>-0.47391 ** (0.48180)</td>
<td>-0.48180 ** (0.36192)</td>
<td></td>
</tr>
</tbody>
</table>
Next, model 15 reports the effects of an interaction between high court independence and the right to food and water. The constitutive high court independence term reports a positive and significant coefficient, such that when the right to food and water does not exist, an independent judiciary is positively correlated with basic water access. However, the interaction term is negative and significant, suggesting that the positive effect of high court independence on basic water access wanes as the right to food and water is constitutionalised. Figure 5 plots the marginal effects of the interaction. The x-axis here represents the range of values of high court independence, with −3.2 representing the lowest levels of independence and 3.3, the highest. While the interaction term is negative and significant, both confidence intervals and means overlap considerably throughout the marginal effects plot, suggesting little difference between states with and without a right to health.

![Figure 5. Marginal Effects of High Court Independence and Right to Food and Water on Access.](image)

Model 16 again reports negative and significant effects of all variables of interest. Both the constitutive rights term and the high court independence term are negative and significant at least the 0.1 level. The interaction term is similarly negative and significant. When high court independence is low, the relationship between a right to health and water access is negative. Alternatively, when the right to health is absent from the constitution, high court independence has a negative relationship with water access. The interaction in model 16 is illustrated in Figure 6. The figure illustrates that at the lowest levels of high court independence there are significant differences between states with a right to health and those lacking the right. Here, states with a right provide worse access than those without. As high court independence increases, however, states with a right to health see negligible increases in access and those lacking a right see a pronounced decline. Therefore, marginal effects for models 15 and 16 fail to support hypothesis 2.

These results are, however, somewhat unsurprising. Given that water is a locally provisioned good, we might expect that measures exploring higher level institutions of democratic governance to have a less discernable effect on access. That is to say, we may conceive of rule of law and civil society participation as features of local democratic governance. As they increase, they extend...
beyond political elites and to the average citizen. Perhaps the effects of these measures then better capture how democratic governance affects locally provisioned goods such as water.

![Figure 6](image.png)

**Figure 6.** Marginal Effects of High Court Independence and Right to Health and Water on Access.

3.4. Controls and Robustness Tests

Turning now to the control variables, we summarise the effects throughout the sixteen models. In general, economic indicators, ethnic heterogeneity, and demographic variables are the most robust predictors of basic water access. Elsewhere, results vary. Beginning with regime type, the results are quite mixed. The regime type term illustrates positive and significant effects in the naïve models (Table 2) and those exploring high court independence (Table 5). However, the variable fails to reach significance in other models. This is perhaps in line with the greater democratic goods provision literature, citing mixed results on the subject [40].

Next, GDP per capita(ln) illustrate positive, significant, and robust effects on basic water access across all sixteen models. Third, Fractionalisation, as predicted by earlier literature, is robustly associated with lower levels of basic water access, illustrating negative and significant effects across all sixteen models. Next, both total population and urbanisation display positive and significant results, again illustrating a robust association with better basic water access in every model. Share of the population above age 65 displays negative and significant results throughout all sixteen models, in line with our expectations. Next, the natural log of land area is negatively associated with basic water rates across all models, again in line with our expectations. Finally, EPI only reaches significance in models examining the right to health and the effect is negative. This may suggest, that more important than environmental policy is the existence of democratic governance to ensure the policy is enforced.

Finally, the appendix includes 14 further tables. Tables S1 and S2 examine the results in the main analysis (Table 2) utilizing restricted samples of democracies and autocracies separately, to test whether the rights tests are merely picking up an effect of regime type more generally. The results of further testing are robust to the results in the main analysis. In short, we can assume with a reasonable degree of certainty that the findings in the main analysis are not illustrating the effects of democratic regimes but instead, democratic governance. Table S3 examines all models utilizing the dichotomous right to food and water indicator with our own coding of a right to water in a state’s national constitution. The TIESR records 43 states with an aspirational or judicially enforceable right to food and water, while our own reading of national constitutions results in 39 states with an explicit judicially enforceable or aspirational right to water. Results of Table S3 are robust to tests in the main analysis. Next, Tables S4–S7 reexamine the results in the main analysis utilizing a categorical variable for specific rights in place of the dichotomous variable utilized for the rights to water and food and health. The results of these tables are robust to the results in the main analysis. Next, Tables S8 through S11 examine the main results with the inclusion of a population density...
variable. The results of these models illustrate first the robustness of the results in the main analysis and second, the lack of statistical significance of the measure. Finally, Tables S12 through S14 reexamine results in the main analysis utilizing OLS regression with separate covariates for the level of constitutionalization of specific rights in place of the dichotomous variable utilized for the rights to water and food and health – treating judicially enforceability as a stronger form of constitutionalisation, in line with material, political and symbolic expectations. The results of these tables are largely robust to the results in the main analysis.

4. Conclusions

Does it make a difference if the human right to water is embedded in national constitutions? Our study explores this question in ways that are distinctive from existing scholarship. First, we posited that existing studies are theoretically underdeveloped in that they pay scant attention to the context in which states implement the right to water once it has been adopted into their national constitutions. That is, multiple factors condition whether, how, and to what extent constitutional rights are put into practice. Here, we focus on contextual and institutional factors such as democracy and the rule of law; our control variables include a range of factors including economic and demographic variables as well as the extent to which other ESCRs have been adopted and put into practice. Thus, we assume that rights that become constitutionalised are not automatically put into practice, but that the political actors responsible for the effective implementation of these rights are subject to norms, pressures, and resource constraints that vary across national boundaries.

Second, we diverge from existing studies in that we pursue a cross-national, large-N research design comprising 123 states over a 15-year period. This approach contrasts existing case studies and small-N studies that focus on specific countries or sets of countries. Our research design allows us to identify general patterns by also including theoretically important variables that we expected to condition the adoption of the human right to water into effective policies that provide broader access to water to a larger segment of the population.

Our findings suggest that the constitutional adoption of the human right to water is contingent on the existence of the rule of law and level of civil society participation. Thus, we propose that the constitutional adoption of the human right to water in a national context is just a first step to improve access to water. Policymakers are subject to the national institutional constraints, pressures, and opportunities when they are tasked with implementing the human right to water. As our results show, in addition to the rule of law, demographic, and economic factors also matter—and require the attention of those seeking to advance the realisation of the right to water. The results of this research usefully illustrate that the implementation of the human right to water is a complex process that cannot satisfactorily be captured when we isolate just a single variable, such as the constitutionalisation of the human right to water.

Supplementary Materials: The following are available online at www.mdpi.com/2073-4441/12/2/350/s1, Table S1: ESCRs & Basic Water Access, Autocracies only, 2000-2015, Table S2: ESCRs & Basic Water Access, Democracies only, 2000-2015, Table S3: Democratic Governance, Right to Water, & Basic Water Access, 2000-2015, Alternate Right to Water Variable, Table S4: Naive models with categorical independent variable, 2000-2015, Table S5: Rule of Law and ESCRs, 2000-2015, Categorical Variables, Table S6: Civil Society Participation and ESCRs, 2000-2015, Categorical Variables, Table S7: High Court Independence and ESCRs, 2000-2015, Categorical Variables, Table S8: Economic and Social Rights & Basic Water Access, 2000-2015, w/ Population Density, Table S9: Democratic Governance & Basic Water Access, 2000-2015, w/ Population Density, Table S10: High Court Independence & Basic Water Access, 2000-2015, Level of Constitutionalization, Table S11: Civil Society Participation & Basic Water Access, 2000-2015, w/ Population Density, Table S12: High Court Independence & Basic Water Access, 2000-2015, Level of Constitutionalization, Table S13: Civil Society & Basic Water Access, 2000-2015, Level of Constitutionalization, Table S14: High Court Independence & Basic Water Access, 2000-2015, Level of Constitutionalization.

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Conflicts of Interest: The authors declare no conflict of interest.

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