

DOI: 10.24850/j-tyca-15-02-08

Notes

Rule of law and water use. Disputes around a beer production project in Baja California Mexico

Estado de derecho y uso del agua. Controversias sobre un proyecto cervecero en Baja California, México

Ricardo V. Santes-Álvarez¹, ORCID: https://orcid.org/0000-0001-9798-5368

¹El Colegio de la Frontera, A. C., Tijuana, Baja California, Mexico, rsantes@colef.mx

Corresponding author: Ricardo V. Santes-Álvarez, rsantes@colef.mx

Abstract

This research investigates the relevance of the Rule of Law in the governance of water in Mexico. Taking a highly relevant though multifaceted idea –Rule of Law– as a framework for analysis, a survey and descriptive statistics approach is used to study a problem triggered by inadequate decision-making on the use of the liquid: The project to install a brewery plant in the Mexicali Valley, in the state of Baja California. The results indicate that the Rule of Law encounters obstacles to its







realization, since basic conditions for its existence are unfulfilled, prevailing processes of exclusion from access to its enjoyment for broad social sectors; In this situation, the avoidance of legality weakens the expected institutionality in a democratic society. They also reveal the negative effect produced by the rationality of dominant usage; especially, in the face of economic growth initiatives that are highly demanding of the liquid. In order to improve governance and contribute to the better use of water resources, an institutional reform is proposed through a policy that includes three major actions: (1) review and determine responsibilities, and apply the law, on omissions or irregular procedures of officials in charge; (2) promote a legal-administrative renewal that accommodates the plurality of voices and privileges the public perspective of adequate use; and (3) generate an educational model of public action prone to the convergence of interests around the objective of better use.

Keywords: Rule of law, water, Mexicali, Constellation Brands.

Resumen

En esta investigación se indaga la relevancia del estado de derecho en la gobernación del agua en México. Tomando como marco de análisis esta idea toral se recurre a una metodología de encuesta y estadística descriptiva para estudiar una problemática detonada por una decisión inadecuada sobre el uso del líquido: el proyecto de instalación de una planta para la producción de cerveza en el valle de Mexicali, en Baja California. Los resultados señalan que el estado de derecho halla obstáculos para su realización, pues no se satisfacen condiciones básicas para su existencia, prevaleciendo procesos de exclusión del acceso a su







goce para sectores sociales amplios; en esa tesitura, el soslayo de la legalidad debilita la institucionalidad esperada en una sociedad democrática. Revelan, asimismo, el efecto negativo que produce la racionalidad de uso dominante, máxime frente a iniciativas de crecimiento económico altamente demandantes del líquido. Para mejorar la gobernación y coadyuvar al aprovechamiento adecuado del recurso hídrico se plantea una reforma institucional por vía de una política que comprenda tres grandes acciones: (1)revisar deslindar responsabilidades, y aplicar la ley, sobre omisiones o procedimientos irregulares de agentes encargados; (2) impulsar una renovación jurídicoadministrativa que dé cabida a la pluralidad de voces y privilegie la perspectiva pública del aprovechamiento; y (3) generar un modelo educativo de acción proclive a la convergencia de intereses en torno al objetivo del mejor aprovechamiento.

Palabras clave: estado de derecho, agua, Mexicali, Constellation Brands.

Received: 11/02/2022

Accepted: 12/07/2022

Published Online: 18/07/2022







Introduction

In Mexico, water governance faces the challenge of inadequate use that threatens the viability of the resource and triggers social unrest. The reasons are several: on the one hand, the distribution of the liquid is uneven, because whilst in the southern and southeastern regions the reserves are acceptable, in the center and north there is a shortage; the climatic circumstance influences this pattern, since around 51 % of the territory is semi-arid, arid, or extremely arid (Semarnat, 1993; UNESCO, 2010). On the other hand, although in humid or sub-humid areas the natural availability exceeds 15 000 m³/inhab/year, in arid or semi-arid areas the figure fluctuates around 1 000 m³/inhab/year; meanwhile, a national average of 3 660 m³/inhab/year means a low condition according to international indicators (Breña & Breña, 2007; Semarnat, 2017). To the above are added legal norms and bureaucratic organizations in frequent accommodation that affect different orders of government; also, complaints of inadequate performance by public servants and phenomena of hoarding of the liquid by influential sectors.

The factors described have obstructed a governance that ensures the best use of the resource. Cases are documented where a rationality of abuse causes deterioration of surface and underground sources, up to the limit of controversy or declared conflict; Thus, while mining, paper, soft drink or brewing companies are in good health, producers with less influence and entire communities suffer exclusion and plunder (Montes *et al.*, 2021). The Ministry of the Environment and Natural Resources (Semannat) has indicated that the scarcity and contamination of water







demand an urgent response, not only because of its magnitude but because it transcends physical and biological aspects, affecting health, food security and the economy (Semarnat, 2015a). In a scenario where profits remain in the hands of a few and where poor communities and nature are the eternal losers, a use of water that does not threaten its viability or generate unrest is unthinkable.

The institutional arena is a source of explanation of the problem; the inconsistency of the normative referents and the weak capacity of the State to confront irregular practices account for this. The search for solutions leads to a structural aspect: the strength of the rule of law. The viability of regulations and bureaucratic instances must be questioned based on the response they receive from economic, social and political actors. It can be stated as a hypothesis that in the use of water, profit is prioritized with the consequent detriment of the general interest and the deterioration of the resource. From that standpoint a reform guided by a policy of better use and conciliation between diverse sectors is necessary.

This article aims to find out the relevance of the rule of law in water governance. It starts from recognizing its theoretical and conceptual foundations; then, through a survey methodology and descriptive statistics, these fundamentals are confronted with the controversy raised by the alleged installation of a beer production plant in the Mexicali Valley, Baja California, by the company Constellation Brands, which had the approval of the authorities but not the community; the latter was a factor for the federal government to decide to cancel the project after a public consultation. After a discussion of the results, in the concluding section it is suggested governance alternatives in light of a policy of better use.







Rule of law

Rule of law is a fundamental principle of the governance of a human association and an essential condition for democratic governance; it is an abstract and multifaceted concept evoked in various fields, although with insufficient clarity (Tamanaha, 2007; Márquez, 2008). In environmental matters, it is a factor for ecosystem surveillance, although adherence to its postulates has been unsatisfactory.

The rule of law is a principle of government according to which all people, institutions and public and private entities, including the State itself, are subject to laws; It implies that both government actors and citizens are bound by the positive legal norm and have to act accordingly (ONU, 2004; Tamanaha, 2007). For the World Justice Project organization (WJP), it is about a durable system of norms, institutions and community commitment that determine the governance of a society (WJP, 2021a; WJP, 2021b). Stein (2009) specifies it as a set of fundamental ideas equally applicable to all, respecting and promoting dignity, legal certainty and human rights; always under the action of an independent judiciary. Others add that it means the submission of the governmental exercise to the law, to the judicial control of the decisions and the responsibility for the acts carried out; that it is a claim of fundamental rights and freedoms of citizens (Ruiz-Rodríguez, 2014; Rodríguez, 2016).

In short, rule of law is a principle of governance or exercise of power in a social system according to which all persons and entities are bound

(https://creativecommons.org/licenses/by-nc-sa/4.0/)







by law and proceed accordingly. Two essential purposes or functions are recognized (Tamanaha, 2007): to impose legal limitations on government officials, either by requiring them to comply with existing legal norms, or by imposing limits on the power of the lawmaker (regularly the legislator); and maintain order, behavior, and orderly transactions among citizens.

The existence of the rule of law is possible through six conditions: (1) effective separation of powers; (2) procedural and legal transparency in matters of public interest so that nothing is left to discretionary treatment; (3) accountability for acts or omissions, both of public and private representatives; (4) citizen participation, with voice and incidence in the construction of norms; (5) mechanisms to enforce the legal framework when it is violated; and (6) ability to meet the legal requirements imposed. But even when the conditions described are given, success is not guaranteed; It depends on the response of instances in charge of its implementation to four imperatives, that is, that the legal norms are: (1) publicly promulgated; (2) enforced without distinction in a spirit of fairness (given that equality exists); (3) predictable, that is, established in advance; and (4) applied independently (ONU, 2004; Tamanaha, 2007; Tamanaha, 2012; Bingham, 2010; Ruiz-Rodríguez, 2014; UN, 2015; Rodríguez, 2016; Yadav, 2017; WJP, 2021a; WJP, 2021b).

In short, rule of law is a fundamental postulate of the exercise of power where all members of the State, including its operating arm –the government and the public sector in general– are limited by, and subject to, laws. Therefore, it depends on specific contexts, its consolidation is determined by the adherence of a society to the precepts that give it







meaning, and the government is the main actor for its achievement. It should be added that governments have been criticized for their diminished capacity or lack of commitment to solve the problems that interest the majority (Donolo, 1999; Peters & Pierre, 2005); such distancing from the social base has meant the rejection of the possibility of building democratic governance. Recently, however, changes have been glimpsed, since the growing desire of various sectors to participate in public affairs has triggered national governments to admit different ways of exercising power, prone to fair and inclusive treatment (Cano, 2008).

The expectation of citizen participation in decision making forces us to rethink the institutional scaffolding. A reform that contemplates a different exercise of both rights and obligations compels us to reassess the rule of law, since democratic governance occurs if and only if it is within its limits, which guarantee the permanence of the State and the viability of society itself; in the opposite case there is a risk of drifting into the failed State (Tedesco, 2007; Zinecker, 2011).

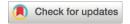
Rule of law and the environment: The case of water

The first United Nations Global Report on the Rule of Law in Environmental Matters (UNGRRLE) highlights the importance of the rule of law when it underlines that, despite the prolific growth in environmental laws and agencies in the world during the last decades, environmental threats are

(https://creativecommons.org/licenses/by-nc-sa/4.0/)







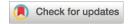
exacerbated by its weak app. He adds that even having increased environmental laws in the world 38 times since 1972, setting them in motion and enforcing them is a great challenge, and he has warned that if the rule of law is not strengthened, the rules will fail and the human right to a healthy environment will not be met (UNEP, 2019).

By emphasizing that the rule of law is linked to the 17 Sustainable Development Goals, the UNGRRLE makes the situation more worrying and urges its full compliance. Certainly, the observation is not new; it has been in the minds of those who refute the presumed duality between the environment and economic growth, and propose an institutional framework that balances both interests (Panayotou, 1994; Ramesh, 2010; Brunner, 2010). The need to explore this third way arises because the rule of law is a *sine qua non* condition for the preservation and conservation of social-and-natural systems.

It can be argued that circumscribing the achievement of social and natural improvement to respect for the rule of law is to incur in a reductionism that is inconsistent with the complexity of the problems. However, the criticism is valid only when the vision is restricted to the premise of "law enforcement and order maintenance". On the contrary, under a broad view, its importance in solving problems is obvious. Such is the position of the UNGRRLE when proposing the presence of the rule of law in the goals of sustainable development, and in a similar sense the World Justice Program pronounces itself when incorporating in the analyzes and discussions characteristics such as "absence of corruption", "fundamental rights" and "open government" (WJP, 2021b).





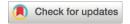


In the case of water, it can be affirmed that the 1992 International Conference on Water and the Environment in Dublin marked a milestone in the perception of the liquid by underlining the importance of its integrated use; however, it caused an unfinished discussion by privileging its consideration as an economic good, arguing that the human right of access to sanitation and clean water must be accompanied by assigning affordable prices, since not doing so leads to waste and harmful uses (ICWE, 1992).

Subsequently, various forums sought to amend or at least qualify the proposal of the conference held in Dublin (UN, 1992; UN, 2002a; UN, 2010), coming to judge water as an element that should not be seen in terms of profit only. In fact, however, the idea of 'integrated management' has maintained an ambiguous interpretation (Biswas, 2004; Ruiz-Ortega, 2015). Precisely because of a diversity of conceptions around the resource, it has been affirmed that competition for water can lead to serious conflicts, but it can also generate cooperation (Commission for Water Sustainability, 2001; UN, 2002b). Such perspectives evoke the duality economic growth versus environment; however, if one considers that no one can disagree that the preservation of rivers and lakes makes sustainable development possible, and that productive activity triggers the generation of jobs and improvements in the standard of living (Ramesh, 2010), the duality does not justifies the state of affairs; Limiting it to this is wrong because it distracts attention from what is basically a political and institutional issue of governance (Brunner, 2010). Panayotou confirms that the existence of environmental problems underlies a question of governance by pointing out that the State must establish the







rules of the game that encourage competition for markets to work, promote an ecological awareness that contributes to the conservation of resources, and guarantee coexistence (Panayotou, 1994).

The fact of incorporating into the debate the ideas of governance, ecological awareness and coexistence agreements, underlines the importance of the rule of law in the goal of achieving social conciliation and the proper use of water. Only the presence of a State made up of solid institutions capable of complying with and enforcing rules that respect and harmonize the various social interests is capable of guaranteeing that purpose.

Materials and methods

The theoretical approach to the rule of law and the environmental issue is confronted with the empirical evidence of the installation project of a brewery plant in the Mexicali Valley, Baja California, and the consequent exploitation of water, with a qualitative and quantitative methodology. An open survey among residents of Mexicali and other places in Baja California allowed to know their position on the matter and to have their evaluation of the prevalence of rule of law and the commitment of the authority to comply with it.

The data collection was carried out in November and December 2021 via an online questionnaire built on the Google Forms platform, sent to representatives of the social, private and public sectors, who in turn were asked to share it with other potential responders. The only







requirement was that they had had interference/interest in the matter. The total number of mailings was 25, although with the forwarding it is estimated that just over 100 people were contacted. The response was not copious (n=33), so the data collected only reflects an overview of the state of affairs, which was synthesized with descriptive statistics. The cartographic work was developed with the QGIS program while the graphics were made with the LibreOffice program.

Results

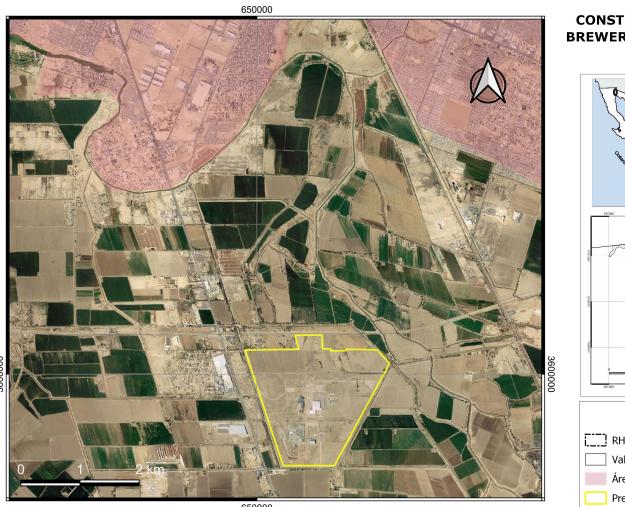
With an area of approximately 3,709 km², Valle de Mexicali is located in the eastern part of Baja California, at coordinates 32° 43′ 12″ N, -114° 43′ 12″ W, 32° 39′ 03″ N, - 115° 40′ 27″ W, and 31° 59′ 30″ N, -115° 03′ 24″ W (Figure 1). It is characterized by an extreme semi-arid climate and little rainfall during the year, with normal annual rainfall of around 98 mm (Conagua, 2018). It belongs to the Colorado River Hydrological Region, in the Hydrological Administrative Region I (Conagua, 2014; Semarnat, 2015b).

(https://creativecommons.org/licenses/by-nc-sa/4.0/)

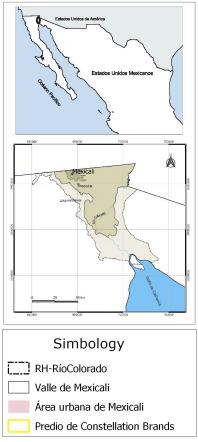








CONSTELLATION BRANDS BREWERY IN MEXICALI, B.C.



Escala 1:50,000

Figure 1. The Mexicali Valley, in Baja California, and location of the Constellation Brands company property.

The average natural availability per capita, of approximately 1.3 thousand m³/person/year, places it at a critical level (Breña & Breña, 2007). Little more than 885 thousand inhabitants reside in the valley, or 83.04 % of the municipal total (Coplade, 2018), so the availability of







water is a priority; while agriculture, the main economic activity, has a negative impact on at least three aspects: impacts on the soil, decrease in the quality of the liquid, and overexploitation of the aquifer to the degree of salinization (Pérez & Sánchez, 1983; Cortez, 2020). The deterioration of the ecosystem is aggravated by adding industrial activities that consume large amounts of water (Pérez & Sánchez, 1983; Cortez, 2019).

Constellation Brands Brewing Project

In January 2016, the transnational company Constellation Brands (CB) began the construction of a brewery plant south of the city of Mexicali, as shown in Figure 1. It had the support of the local authorities but not the acceptance of the community, so the disagreement flowed immediately; especially when the people learned that the water that would be used $-20\ 000\ 000\ m^3$ per year when the plant had reached maturity— would exceed the consumption of the industries installed already in Mexicali and Tijuana together (Gallardo, 2020; El Financiero, 2020) and that it would be delivered by the Mexicali utility.

In 2018, citizens asked the state electoral institute to hold a plebiscite on environmental authorization for the construction and operation of the brewery; however, the petition was rejected on the grounds of being inconsequential for public life (IEEBC, 2019). Denying to the citizens the possibility of knowing and the right to participate was considered a breach of the legal order. Associations such as Mexicali







Resiste, Baja California Resiste, Mexicali Consciente, Célula 686 and Colectivo Estatal Plebiscito por el Agua de Baja California denounced that the brewery would damage the ecosystem and the availability of the liquid, without benefiting the population. A technical study revealed inconsistencies and vagueness in the data of the Environmental Impact Statement presented by the company (Cortez, 2019; Cortez, 2020).

Initially, federal officials agreed with state officials and announced their approval to CB: in January 2020, Semarnat and the National Water Commission (Conagua) considered its operation viable. At that time, the company reported an advance of 70 % in the first 4 years, an exercise of US\$1 400 000 000, and an important generation of jobs (Arellano, 2020; El Financiero, 2020). Later, in the face of social rejection, Semarnat promised to review the matter (Gallardo, 2020). In March, the President of the Republic reported on the holding of a public consultation by the Ministry of the Interior, to collect the general opinion and make a final decision (Cervantes, 2020a). Of a total of 36 781 voters, 76.1 % rejected the brewery; therefore, Conagua would no longer issue permits (El Financiero, 2020); In the interest of not affecting the company, the federal government proposed the option of relocating to the southeast of the country.

Despite the resolution, the Baja California authority declared that it would look for other water sources to offer them to BC (Cervantes, 2020b). In August 2020, the federation reiterated its position: the plant will not be built in the valley because the people decided so (Forbes, 2020). At the beginning of December 2021, the company announced that it would settle in the state of Veracruz (Morales, 2021).



Ciencias Agua





Social positioning around the project

Table 1 shows the profile of those who answered the questionnaire. The majority stated that they had no role in the matter (people who lived elsewhere or who played a role that they preferred not to declare); in the second term were those who only recognized their belonging to the community. The representation of other holdings was considerably lower.

Table 1. Roles of the actors in the Constellation Brands case (percentage representation).

Role played	Percentage (%)
Community member	33.3
Community Representative	2.8
Agricultural producer	2.8
Academic advisor	5.6
Academic observer	5.6
Social Group Advisor	2.8
None	47.2
Overall	100.0

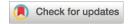
Regarding the position of the respondents toward the installation of the brewery, Table 2 shows that the majority was opposed, others stated



Tecnología y

Ciencias Agua





that they were neither in favor nor against, still others claimed to have been in favor, in so much so that a last sector indicated ignorance of the case.

Table 2. Positions of the actors regarding the brewery project (percentage representation).

Position	Percentage (%)
In favor	12.1
Against	66.7
Neither for nor against	18.2
I did not know	3.0
Overall	100.0

Figure 2 shows the appreciation of the sectors that benefited from the cancellation; Citizens in general and those openly opposed to the project were preponderant, although the sector of agricultural producers also appears in a relevant position. Industrialists, traders, and even politicians, occupy lesser positions.



Tecnología y Ciencias # A





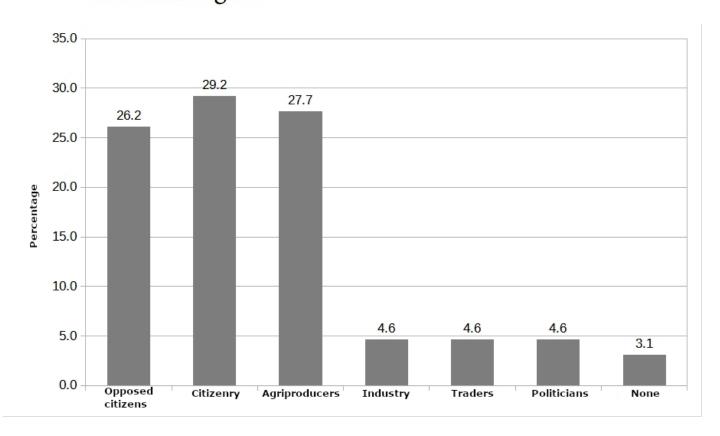


Figure 2. Sectors benefited from the cancellation of the project.

Respondents were also questioned about the role of the federal government in the outcome of the controversy that arose, as well as about the possible repercussions on the cancellation of the project. Regarding the first aspect, almost 70 % agreed that federal intervention was decisive, while on the second aspect, just over 60 % considered that the cancellation would not have effects on the region's economy.







Rule of law prevalence assessments

Figure 3 presents the evaluations of each condition for the existence of the rule of law according to the position of the actors. In accordance with the average values, four characteristics have failing grades (Separation of powers= 4.61, Transparency= 4.22, Accountability of the public sector= 4.4 and Citizen Participation= 5.83) and only the condition of Means to comply with the law has a value above from 7.0. In particular, according to the position towards the project, it is notable that the group that stated that they were unaware of it evaluated the characteristics of Accountability of the public sector, Transparency, and Separation of powers with a rating of 0.0; also, that the group in favor evaluated positively the condition of Mechanism to enforce the law (8.25), as well as the condition of Accountability of the private sector (8.0) but not that of the public sector (5.25).







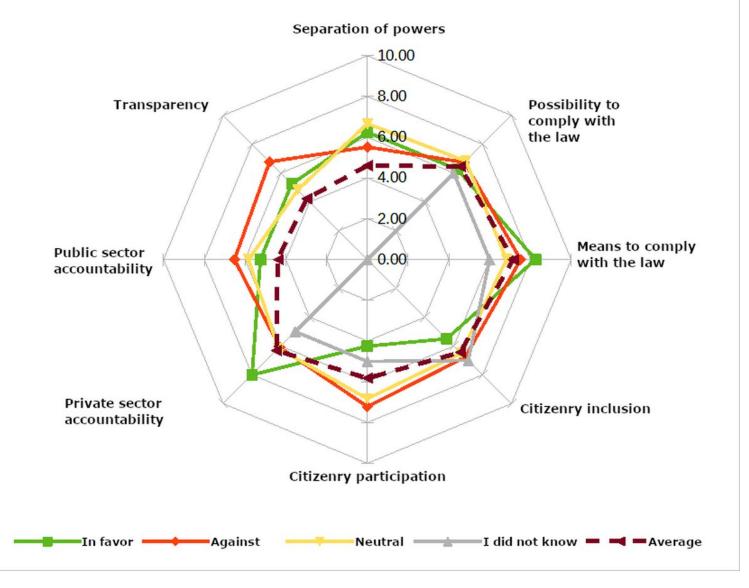


Figure 3. Evaluation of specific areas of the conditions of the Rule of Law, according to the position of the actors regarding the project.

Figure 4 shows the evaluation of compliance with each rule of law commitment by the authority, according to the position of the respondents. In the four items, the average evaluation was failing (values



Ciencias Agua





between 4.88 and 5.34), which indicates an unfavorable assessment of the authority's performance. From the specific positions, those who declared not knowing the project gave the lowest marks; On the other hand, the sectors in favor and against presented evaluations preponderantly above the average, although the highest figure was barely 6.6. It is noteworthy that the sector in favor of the project evaluated with a passing grade only the Publicity of the law characteristic.

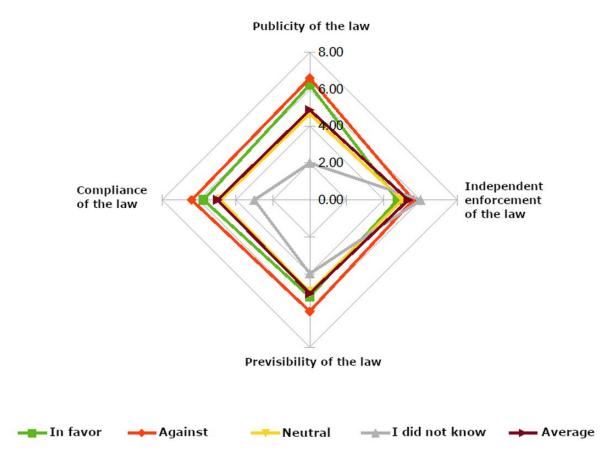


Figure 4. Evaluation of specific areas of compliance with commitments by the authority, according to the position of the respondents towards the project.







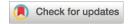
Discussion

The scarce citizen response to the survey carried out can be attributed to the time that has elapsed since the cancellation of the project, because despite the uncertainty about whether the resolution would be complied with or not, it ceased to be a source of discussion in the media and, with it, reduced interest; however, the data collected is close to reality. Although a good proportion of citizens identified themselves as a member of the community, the answer to the question about the role played in the controversy was "none"; this may be due to a refusal to identify themselves as active participants (a possibility that is strengthened by verifying that the majority of respondents rejected the project). In any case, the trust (or mistrust) that the inquiry itself has generated cannot be ignored, since there is no doubt that a large number of previous surveys and/or interviews altered the daily life of citizens and produced skepticism about the use of their answers.

The citizens recognized that without the intervention of the current federal government, the result would have been different, since both the state and municipal governments were unfailingly on the side of the brewery. In addition, the security about the non-existence of repercussions in the regional economy due to the cancellation reveals an old agricultural and industrial tradition in Mexicali. This supports the idea that the economic sector that benefited from the outcome was precisely that of agricultural producers.







The information provided warns that the facts do not support optimal conditions for the existence of the rule of law. The unfavorable assessment of government performance is understandable: on the one hand, citizens and civil organizations opposed to the project were marginalized throughout the decision-making process; on the other hand, those who were in favor undoubtedly expressed their disappointment in the authorities for the result (it is recalled that from 2016 and until 2020 federal authorities coincided with state authorities in promoting the installation of the brewery). Hence, the aspects of predictability, compliance, and application of the law with independence, have had negative evaluations.

The discrepancy between the expectation of long-term presence and management of water resources and economic growth initiatives is evident; the case shows an inadequate practice of appropriation of water for private revenue that does not repair the damage to the majority. Perhaps in the eyes of the businessmen and officials involved, compliance with laws and regulations in the context of respect for human rights and nature constitutes an obstacle to progress, but it is difficult to conceive of improving living conditions when essential principles of the rule of law are circumvented.

One of the biggest obstacles to the success of the rule of law is the contrasting reality about the superiority of the law, because its satisfaction implies the submission of the State itself to the law and that is a pending task; Márquez (2008: 228-229) affirms that in the country "the laws are broken at all levels and even by the authorities themselves [and] the governed alike try not to comply with all their citizen







obligations"; he adds that the political will of the actors and the political system itself hinder the purpose. Within the formal powers, both at the federal and state level, there are obstacles to modifying the *status quo* because for years the goal of profit has been ahead of any other claim.

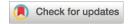
Conclusions

Water governance in Mexico is unsatisfactory. This is due to its unequal distribution and difficult access, rules and bureaucracies frequently accommodated in different levels of government, poor and irregular performance by public servants, and hoarding maneuvers by influential sectors. These factors permeate institutional activities and promote a weakening of the rule of law by producing favorable legal conditions for influential groups. In this sense, the gaze must be placed on the dilemma of complying or disobeying the positive norms that govern behavior.

The study of the Constellation Brands project illustrates the dominant rationale for the use of water resources that is aligned with economic objectives and avoids responding to social demands and the improvement of water systems. It reveals that the requirements of separation of powers, transparency, accountability, citizen participation, as well as mechanisms that enforce the rules and the effective possibility of complying with them, as prescribed by various authorities (ONU, 2004; Tamanaha, 2007, Tamanaha, 2012; Bingham, 2010; Ruiz-Rodríguez, 2014; UN, 2015; Rodríguez, 2016; Yadav, 2017; WJP, 2021a; WJP, 2021b) are not met. In this situation, processes of exclusion of broad





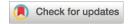


sectors prevail. Even when the applied survey does not allow drawing conclusions with solid support, the analysis offers clues about the effect that inadequate water management produces in the rule of law and that, paradoxically, feeds it: the avoidance of legality permeates and weakens the institutionality of a democratic society. Faced with the current management, there is little room to talk about a rule of law that harmonizes economic, social and environmental interests. The CB case illustrates a reality that occurs in other geographies in a similar way. Suffice it to cite the most current example: the water scarcity crisis in Monterrey, Nuevo León and its metropolitan area, where citizens suffer a situation that has reached social tension, as companies that consume large amounts of the vital liquid for their Industrial processes continue to work normally. It is stated that their oligopolistic power must determine the destination of the resource, and that there is a risk that they control the water for human consumption (Corrales, 2020). It is feasible that, as happened with BC, only with the intervention of the federal government can a solution appear.

The statement that the problem lies in the fragility of the rule of law calls for recognizing deficiencies in legal precepts and formal offices that have overlapped excesses, deterioration of ecosystems, and undermining the well-being of society. The reform is feasible through a policy that contemplates a strategy of three actions: cleaning, reconstruction, and effective sustainability. The first, to be carried out in the short term, would cover the review/audit of contracts, concessions and permits for the exploitation of water resources, given to public and private entities, as well as the accountability of officials who have lacked honesty in public







service. The existing environmental crisis forces us to amend the path by redressing a pending issue: the effective application of the positive norm. The medium-term action —reconstruction— serves three purposes: (1) review/modify federal and local regulations on water and sanitation, favoring the public perspective of use, and update the coordination directives of the various official agencies; (2) verify the governmentbusiness linkage processes; and (3) optimize dispute resolution mechanisms. Finally, in the long term, a third action —effective sustainability— must focus on producing an educational archetype of public action that satisfies the purpose of integration (social, ecological, economic) based on the contexts inherent to the national territory, and to generate permanent dialogue between society and government aimed at harmonizing the objectives of economic growth and protection of water resources. It is not obvious to consider that the fulfillment of these precepts and the achievement of a balanced and lasting use of water depend on political will at the highest level, and that the responsible instances act in congruence with the legal commandments to which they are obliged in an environment of fairness, certainty and independence.

At the end, possible limitations of this research are mentioned, which are added to the little response that the survey carried out: on the one hand, the trust or mistrust of the respondents; on the other hand, the risk of exaggerating specific details when resorting to the case study methodology, although in defense it offers the advantage of deepening the knowledge of relevant aspects. To overcome these imponderables, it is pertinent that in future research surveys be designed that guarantee the involvement of a greater number of actors, as well as carry out







complementary quantitative analyses. It is not obvious to mention the need to carry out comparative studies that enrich the investigation.

References

- Arellano, L. (2020). Viable, operación de Constellation Brands en Mexicali: Semarnat. *La Jornada Baja California*. Recovered from https://rb.gy/oewcuj
- Bingham, T. (2010). The rule of law. London, UK: Penguin Books.
- Biswas, A. (2004). Integrated water resources management: A reassessment. *Water International*, 29(2), 248-256. DOI: 10.1080/02508060408691775
- Breña, A., & Breña, J. (2007). Disponibilidad de agua en el futuro de México. *Ciencia*, julio-septiembre, 64-71. Recovered from https://www.amc.edu.mx/revistaciencia/images/revista/58_3/PDF /09-550.pdf
- Brunner, J. (2010). *Conservation vs. development: What are we talking about?* IUCN. Recovered from https://rb.gy/h4kto4
- Cano, L. (2008). La participación ciudadana en las políticas públicas de lucha contra la corrupción: respondiendo a la lógica de gobernanza. *Estudios Políticos*, 33, 147-177.



Ciencias ₹Agua



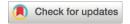
- Cervantes, J. (2020a). Acarreo, compra de votos y casillas reventadas en consulta sobre cervecera de Mexicali. *Proceso*, 21 de marzo. Recovered from https://www.proceso.com.mx/nacional/estados/2020/3/21/acarre o-compra-de-votos-casillas-reventadas-en-consulta-sobre-cervecera-de-mexicali-240222.html
- Cervantes, J. (2020b). Mediante pozos de agua, Constellation Brands busca quedarse en Mexicali. *Proceso*. Recovered from https://www.proceso.com.mx/nacional/estados/2020/7/3/mediant e-pozos-de-agua-constellation-brands-busca-quedarse-enmexicali-245570.html
- Commission for Water Sustainability. (2001). Speech of Mr Kofi Annan, General-Secretary of the United Nations, during the 97th Meeting of the Association of American Geographers. Recovered from https://igu-water.org/speech-of-mr-kofi-annan-general-secretary-of-the-united-nations-during-the-97th-meeting-of-the-association-of-american-geographers/
- Conagua, Comisión Nacional del Agua. (2014). Atlas del agua en México. México, DF, México: Secretaría del Medio Ambiente y Recursos Naturales y Comisión Nacional del Agua. Recovered from http://www.conagua.gob.mx/CONAGUA07/Publicaciones/Publicaciones/SGP-17-14.pdf
- Conagua, Comisión Nacional del Agua. (2018). *Estadísticas del agua en México*. Ciudad de México, México: Secretaría del Medio Ambiente y Recursos Naturales y Comisión Nacional del Agua. Recovered from http://sina.conagua.gob.mx/publicaciones/EAM_2018.pdf



Tecnología y

Cienčias ₹Agua





- Coplade, Comité de Planeación para el Desarrollo. (2018). Perfil sociodemográfico del municipio de Mexicali. Mexicali, México: Comité de Planeación para el Desarrollo Baja California. Recovered https://docplayer.es/75535585-Perfil-sociodemografico-delmunicipio-de-mexicali-2018.html
- Corrales, S. (2020). El uso industrial del agua en la cervecería Heineken en Monterrey, México. Región y Sociedad, 32, e1298. DOI: 10.22198/rys2020/32/1298
- Cortez, A. (12 de febrero, 2019). Opinión técnica sobre la manifestación de impacto ambiental (MIA) y otros documentos oficiales del Proyecto de Construcción y Operación de la Planta Cervecera Constellation Brands en Mexicali, Baja California. Recovered from https://issuu.com/pajaropolitico/docs/cortez lara conacyt febrero 2019
- Cortez, A. (2020). Elementos de conflicto socioambiental: la cervecera Constellation Brands y el agua de Mexicali. Revista Frontera Norte, 32(62), 32-67.
- Donolo, C. (1999). ¿Cómo gobernar mañana? Barcelona, España: Galaxia Gutenberg-Círculo de Lectores.
- El Financiero. (23 de marzo, 2020). Este es el proyecto de Constellation Brands que se votó por "no construir" en Mexicali. Recovered from https://rb.gy/asvijk
- Forbes. (12 de agosto, 2020). Constellation Brands insiste en construir planta en Mexicali, pero no se otorgarán permisos: AMLO. Recovered from https://rb.gy/vjfy1y



Ciencias ₹Agua

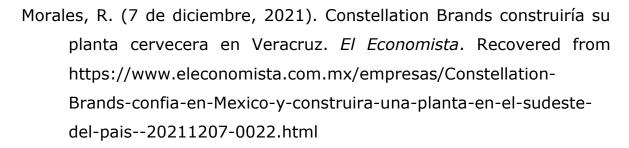


- Gallardo, Ma. F. (2020). Gobernanza del agua y conflictos socioambientales: el caso de la cervecera Constellation Brands en Mexicali, Baja California (tesis de Maestría en Administración Integral del Ambiente), El Colegio de la Frontera Norte, Tijuana, Baja California, México.
- ICWE, International Conference on Web Engineering. (1992). *The Dublin statement on water and sustainable development*. Recovered from http://www.wmo.int/pages/prog/hwrp/documents/english/icwedec e.html
- IEEBC, Instituto Estatal Electoral de Baja California. (2019). *Dictamen número cuatro*. Comisión de Participación Ciudadana y Educación Cívica. Recovered from https://www.ieebc.mx/plebiscito/archivos/plebiscito/solicitudanexo s/Dictamen4CPCyEC.pdf
- Márquez, S. (2008). Estado de derecho en México. En: Cienfuegos, D., & Rodríguez, L. (coord.). *Estado, derecho y democracia en el momento actual. Contexto y crisis de las instituciones contemporáneas* (211-230). Monterrey, México: Fondo Editorial Jurídico.
- Montes P., Aguilar, N., Ávila R., Macbani, P., Raygoza, M., Garnica, B., Reynoso, J., & Ruvalcaba, J. (2021). Contaminación del río Santiago: un problema epidemiológico ambiental persistente de salud pública en Jalisco, México. *Journal of Negative and Non Positive Results*, 6(9), 1222-1236.



Ciencias ₹Agua





- ONU, Organización de las Naciones Unidas. (2004). *El estado de derecho* y la justicia de transición en las sociedades que sufren o han sufrido conflictos (Informe S/2004/616). Recovered from https://undocs.org/es/S/2004/616
- Panayotou, T. (1994). *Ecología, medio ambiente y desarrollo*. *Debate crecimiento* vs. *conservación*. México, DF, México: Gernika.
- Pérez, D., & Sánchez, J. (mayo-agosto, 1983). Ordenamiento ecológico del valle de Mexicali, *Estudios Fronterizos*, año 1(1), 113-152.
- Peters, G., & Pierre, J. (2005). ¿Por qué ahora el interés por la gobernanza? En: Cerrillo, A. (coord.). *La gobernanza hoy: 10 textos de referencia* (37-56). Madrid, España: Instituto Nacional de Administración Pública, INAP.
- Ramesh, J. (28 de septiembre, 2010). *The two cultures revisited: Some reflections on the environment-development debate in India*. Text of 11th ISRO-JNCASR Satish Dhawan Memorial Lecture, Bangalore. Recovered from https://rb.gy/1c2jbn
- Rodríguez, J. (2016). *Estado de derecho y democracia*. INE, Cuadernos de Divulgación de la Cultura Democrática 12. Recovered from http://biblio.ine.mx/janium/Documentos/cuaderno_12.pdf



Ciencias Agua





- Ruiz-Ortega, R. (2015). Convergencia de política hacia la gestión integral de recursos hídricos en México. Revista Mexicana de Análisis Político. y Administración Pública, 4(2), 67-88.
- Ruiz-Rodríguez, V. (2014). Democracia y derechos humanos en México. Situación actual. Toluca, México: Comisión de Derechos Humanos del Estado de México, CDHEM. Recovered from https://biblio.juridicas.unam.mx/bjv/detalle-libro/4913democracia-y-derechos-humanos-en-mexico-situacion-actual
- Semarnat, Secretaría del Medio Ambiente y Recursos Naturales. (1993). Zonas ecológicas de México. Consulta temática. Recovered from https://rb.gy/3tbkvu
- Semarnat, Secretaría del Medio Ambiente y Recursos Naturales. (2015a). Informe de la situación del medio ambiente en México 2015. Recovered from https://rb.gy/om96k6
- Semarnat, Secretaría del Medio Ambiente y Recursos Naturales. (2015b). Atlas digital geográfico. Recovered from https://rb.gy/t5unwy
- Semarnat, Secretaría del Medio Ambiente y Recursos Naturales. (2017). Agua. Indicador básico 2.1-5. Disponibilidad natural media per cápita. Recovered from https://apps1.semarnat.gob.mx:8443/dgeia/indicadores17/conjun tob/indicador/02_agua/2_1_5.html
- Stein, R. (2009). Rule of law: What does it mean? Minnesota Journal of International 18(2), 293-303. Recovered from Law, http://hrlibrary.umn.edu/edumat/Rule%20of%20Law%20Stein%2 0English.pdf



Ciencias Agua



- Tamanaha, B. (2007). A concise guide to the rule of law. Legal Studies

 Research Paper Series, St. John's University School of Law (Paper #07-0082).

 Recovered from https://content.csbs.utah.edu/~dlevin/conlaw/tamanaha-rule-of-law.pdf
- Tamanaha, B. (2012). The history and elements of the rule of law. Singapore Journal of Legal Studies, 232-247. Recovered from https://law1.nus.edu.sg/sjls/articles/SJLS-Dec-12-232.pdf
- Tedesco, L. (2007). El Estado en América Latina. ¿Fallido o en proceso de formación? FRIDE cuadernos de trabajo 37. Recovered from https://www.academia.edu/17894086/El_Estado_en_América_Latina_Fallido_o_en_proceso_de_formación
- UN, United Nations. (3 y 14 de junio, 1992). *United Nations Conference*on Environment and Development. Recovered from https://sustainabledevelopment.un.org/content/documents/Agend a21.pdf
- UN, United Nations. (2002a). General Comment No. 15. The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights). Recovered from https://digitallibrary.un.org/record/486454?ln=en
- UN, United Nations. (2002b). World's water problems can be 'catalyst for cooperation' says secretary-general in message on World Water day.

 Recovered from https://www.un.org/press/en/2002/sgsm8139.doc.htm







- UN, United Nations. (2010). *The human right to water and sanitation. UN Resolution A/RES/64/292*. Recovered from https://digitallibrary.un.org/record/687002?ln=en
- UN, United Nations. (21 de octubre, 2015). *Transforming our world: The*2030 agenda for sustainable development. Res. adopted by the

 General Assembly. A/res/70/1. Recovered from

 https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1

 &Lang=E
- UNEP, UN Environment Programme. (2019). *Environmental rule of law.*First Global Report. Nairobi, Kenia: UN Environment Programme.

 Recovered from https://www.unep.org/resources/assessment/environmental-rule-law-first-global-report
- UNESCO, Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura. (2010). *Atlas de zonas áridas de América Latina y el Caribe*. Recovered from https://unesdoc.unesco.org/ark:/48223/pf0000216333
- WJP, World Justice Project. (2021a). What is the rule of law? Recovered from https://worldjusticeproject.org/about-us/overview/what-rule-law
- WJP, World Justice Project. (2021b). *Mexico states rule of law index 2020-2021*. Recovered from https://worldjusticeproject.org/sites/default/files/documents/msi-2020-2021-v8 2.pdf







- Yadav, A. K. (2017). Rule of law. *International Journal of Law and Legal Jurisprudence Studies*, 4(3), 205-220. Recovered from http://ijlljs.in/wp-content/uploads/2017/08/Rule_of_Law.pdf
- Zinecker, H. (2011). Civil society in developing countries. Conceptual Considerations. *Journal of Conflictology*. Recovered from http://journal-of-conflictology.uoc.edu/joc/ca/index.php/journal-of-conflictology/article/view/vol2iss1-zinecker/vol2iss1-zinecker.html