

Water Governance and Immigrants in Western Democracies: A Systematic Review

Bereket Isaac¹, Rob de Loë¹

¹University of Waterloo, Canada, bnegasi@uwaterloo.ca (corresponding author)

Submitted: 31 October 2022, Revised: 27 February 2024, Accepted: 29 February 2024, Published: 18 June 2024

Abstract

Immigrants in western democracies are an important social and demographic group. The extent to which water governance processes and structures are positioned to create space for engagement with newcomers is not well understood. We employ a systematic review of the literature to assess the extent to which participative (including collaborative) water governance approaches incorporate voices from immigrant communities in scientific literature. We conduct a systematic search of the relevant literature on participatory water governance over the five-year period 2015–2019 to assess the nature of participation by immigrants in water governance as covered in the literature. The results from the review of articles that directly focus on participatory-to-water governance indicate that the water governance research community has been slow to recognise distinctive immigrant voices in research. We discuss how such a lack of attention is closely tied to issues of justice and fairness, as well as its implications for effectiveness of policy-aimed water sustainability.

Keywords: *participatory governance; collaborative governance; environmental values; immigration; culture*

Citation:

Isaac, Bereket and Rob de Loë (2024), Water governance and immigrants in Western democracies: A systematic review, *International Journal of Water Governance*, 11. <https://doi.org/10.59490/ijwg.11.2024.6782>

DOI:

<https://doi.org/10.59490/ijwg.11.2024.6782>

ISSN 2211-4505



1. Introduction

The last three decades have seen a surge in the literature that emphasizes the importance of public engagement in water governance, and environmental governance more broadly (Milton & Lepage, 2010; Reed, 2008; van der Lee, 2000). Approaches such as integrated water resources management (IWRM) and adaptive management take stakeholder participation as a central element of their effectiveness (Tortajada, 2014; Huitema et al., 2009). Concern for public engagement can be attributed to increasing skepticism about science and growing knowledge and public interest in environmental decisions, especially in democratic countries of the West (Reed, 2008). This push for stakeholder participation has also been driven by normative appeals from United Nations agencies, national governments, and other international organisations as part of their efforts to promote good governance and enhance the effectiveness and legitimacy of decisions (National Research Council, 2008). Initiatives such as these have resulted in the adoption of various participatory and collaborative models for stakeholder participation.

Stakeholder participation in water governance has mainly focused on two areas of emphasis: 'participatory governance' (Fritsch, 2019; von Korff et al., 2012) and 'collaborative governance' (Cisneros, 2019; Koontz and Newig, 2014). The former stresses the involvement of stakeholders who traditionally were not charged with decision-making, while the latter emphasizes processes where actors engaged in water governance work together to address shared problems (Challies et al., 2016). We understand participative governance to be a more encompassing term that also includes collaborative governance. As such, we use the phrase participatory governance to also denote collaborative governance unless we make clear distinctions for purposes of emphasis.

The specific ways in which stakeholder engagement is thought to enhance the effectiveness of governance processes varies widely in the literature. However, there is broad agreement that engagement allows stakeholder groups to have their input considered in decision-making processes (Newig & Fritsch, 2009). Stakeholders that typically receive attention include industry representatives, agricultural groups, various non-governmental environmental organisations, and rural and urban community groups. In the context of Western democracies (North America, Europe and Australasia) on which this study focuses, one important group that is largely missing from conversations in environmental and water governance is immigrants as a culturally distinct stakeholder group (Kerr, et al., 2016; Leach, 2006; Head et al., 2019).

While there are various definitions of who is considered an immigrant, for example, see Obokata et al., (2014), a good starting point is to note that an immigrant is someone residing in a country after relocating from another. Moren-Alegret et al. (2018, p. 256) define an immigrant as "a key local and/or regional actor who was born in another country and whose activity is linked to social, economic, and/or environmental organisations in the study areas."

There is limited understanding in the literature about how immigrants are positioned to be active participants in environmental governance processes in their new home countries. This gap will become increasingly important. McFarland (2019) notes that with the rise of temperature and sea levels, as well as international migration increasingly is being driven by environmental change. While it may not be inevitable (e.g., see Haas, 2021), there are already indications that the worsening impacts of climate change on economic well-being will contribute to increased migration from the global south to the global north (de Guttery et al., 2016). Between 2020 and 2050, this migration path will be mostly from countries in Asia (Bangladesh, China, India, Indonesia, and Pakistan) to several advanced western countries that includes Australia, Canada, the UK, and the United States (United Nations, 2017). This inflow of immigrants not only increases the population of the host countries, but will also qualitatively alter their demographic makeup (Deng et al., 2006; McFarland 2019).

The literature on stakeholder participation in water governance tends to presume that residents of a

community or a watershed share similar cultural disposition and worldview towards nature, water, and the environment in general (Eurler & Heldt, 2018; Irvin & Stansbury, 2004). Previous research on environmental values and behaviour has already indicated significant differences in worldviews towards nature between societies in the Global North and the Global South (Chatterjee, 2008, Dunlap, 2008).

With the ever-growing trend of migrations from Africa, Asia, and the Pacific to western democracies, the extent to which newcomers' distinctive perspectives find expression and space in participatory water governance processes should be a concern for decision-makers (Bhuyan et al., 2015; McFarland, 2019). Immigrants to western countries may bring with them different cultural attachments and value systems in relation to the natural environment, but the implication of these distinct perspectives for water governance processes have not received sufficient attention in the academic literature (de Guttry et al., 2016; Liu & Segev, 2017; Smith & Ali, 2006). As these immigrants interact with the social and political systems that govern their new homes, there is potential for their value systems to remain underrepresented, and the governance system to remain oblivious to their perspectives and needs. Political science literature has long argued that due to a lack of relevant resources that enable participation, some racial/ethnic groups tend to be less active in political spaces (Verba et al., 1993). In addition, many immigrants come from countries with authoritarian regimes and may have been put off by the very idea of the political process.

Nevertheless, there may be opportunities to encourage them to give their voices to how their water needs are to be met best rather than expect them to be active in national or regional elections. Participation in water governance could be perceived as 'less political' and more relatable to their daily needs, and a way to nudge them to more fully participate in the wide array of civic processes in their new countries. The risk of overlooking them is that the governance systems may miss the opportunity to benefit from different perspectives, cultural attachments, and knowledges of newcomers that could potentially contribute positively to environmental stewardship. This diversity could be crucial as societies strive towards water stewardship in an increasingly complex world. As the UNESCO notes "[c]ultural diversity is crucial to environmental sustainability; it generates the multiple human possibilities necessary for generating sustainable adaptations in a changing world" (UNESCO, 2012, p. xi).

In this paper, we consider whether, and the extent to which, existing participatory water governance systems in western democracies create spaces for engagement with new immigrants, and accommodate diverse value systems in relation to nature and the environment. This question is poorly understood within water governance research, and with the increasing threats of climate-induced mass migrations (Bettini, 2019), it represents an important gap in the literature. This paper aims to address this gap by assessing the state of the literature in stakeholder participation in water governance by focusing on participative approaches to water governance and their consideration of recent immigrants in decision-making processes. The research question we ask in this paper is: *How does the participatory water governance literature treat the engagement of immigrants in water policy and governance processes?*

We answer the question by undertaking a systematic review of the literature through a search of key terms in two of the most comprehensive academic databases relevant to water and environmental governance: Scopus and Web of Science. Results suggest that in the academic literature there has been a systematic neglect of the role of immigrants in participative (and collaborative) water governance approaches. To provide a context for the remainder of this work, the following section provides an explorative overview of the literature on immigrants' involvement in environmental and water governance.

2. Immigrants' Participation in Environmental and Water Governance

Over the last three decades, participatory approaches to water governance have become increasingly visible in the scholarly literature and in policy options professed by governments (Tortajada, 2010). A major impetus

for this increase may be attributed to the call by various international development agencies for more citizen participation in sustainable development as a normative principle (United Nations Division for Sustainable Development, 1992; World Commission on Environment and Development, 1987). The major focus of this systematic review is exploring whether immigrants, as a relatively distinct cultural group in their host countries in the West, are considered a part of the stakeholder involvement process to achieve inclusive water governance (Akhmouch & Clavreul, 2016). A key premise of stakeholder participation in environmental governance processes broadly has been the inclusion of an “active citizenry” that could reflect the needs and desires of the broader community (Koehler & Koontz, 2008). However, individual participants in participatory approaches may not necessarily mirror the diverse socio-economic and cultural characteristics of the concerned community.

While proponents of participatory approaches argue that such approaches create “critical avenues for underrepresented segments of society to make their voices heard” (Koehler & Koontz 2008, p. 144), this may not always be the case (Parkins and Sinclair 2014). Thus, even though participatory approaches to environmental and water governance have become increasingly prominent features of major policy documents developed since the end of the 1990s in many countries, the exact cultural composition of ‘participants’ and its implication for the governance process has generally been overlooked (Akhouch & Clavreul, 2016; Head et al., 2019) . Some authors even point to exclusions and “patterns of elitism” within participatory environmental governance (Parkins & Sinclair 2014). The environmental justice literature already showed that some groups may be less represented in decision processes even when they may be the ones most disadvantaged by environmental harms (Agyeman et al., 2003).

The participatory environmental governance literature has acknowledged the cultural distinctiveness and sovereign status of Indigenous peoples in governance processes (Arsenault et al., 2018; Escott et al., 2015), including in collaborative water governance processes (von der Porten & de Loë, 2014). Nonetheless, the literature has generally overlooked cultural differences within Western democratic societies that shape how people engage in environmental governance processes. This is especially true in the case of recent immigrants as culturally distinct stakeholder group. Even though there are significant numbers of recent immigrant populations in Europe, North America and Australia (see Table 1 below), the extent to which these people participate in water governance processes, and the form that such participation takes, has received little to no attention (Yan et al., 2016).

With increasing numbers of immigrants joining the societies of many western countries, an important question to ask from a water governance perspective is the extent to which the existing processes and structures incorporate the attitudes, concerns, and cultural perspectives that immigrants bring to their host countries. In many cases, such cultural perspectives are distinct from the environmental outlook dominant in the host countries in the West. For instance, Anderson (2015, p. 6) observes that European settlers to North America brought a worldview that separated people from nature. In contrast, recent immigrants to Canada may bring a “respectful and reverent relationship to their local waters, through their community life, their cultural

Table 1: Total number of foreign-born residents in selected industrial countries

Country	Number of immigrants (foreign born population)	% of population	Data available for (Year)
Australia	7.5 million	29.2%	2021
Canada	8.4 million	22%	2021
France	8.6 million	13.3%	2021
Germany	14 million	16.8%	2022
United Kingdom	9.6 million	14.3%	2021
United States	47.3 million	14%	2022

Source: Compiled from OECD International Migration Outlook 2023

practices, their spiritual beliefs, and their day-to-day activities.” Similarly, de Guttery et al. (2016) challenge the traditional scientific framing of migrants as powerless or a threat, and suggest that migrants are valuable members of society who can provide new knowledge and perspectives on climate change.

The extent to which recent immigrants are given appropriate space to participate in water governance processes may also be seen as a question of equity and justice (Blue et al., 2019). Participation in water governance processes is closely linked to the engagement of immigrants with the broader social and political governance processes that affect them. With respect to environmentally-related political engagement, the literature shows that there is significant discrepancy in participation between native born and foreign-born residents in western countries. In discussing the results of quantitative analyses of environmental behaviours, Pfeffer and Stycos (2002) note that the most important differences between immigrants and the native-born groups were in their political behaviours. The native-born population was more likely to have signed a petition, written a letter, or talked or written to government officials about an environmental issue.

Unfortunately, there are often obstacles to immigrants’ participation in governance in their new homes. George et al., (2015) indicate that the interaction of immigrants with the environmental governance system is part and parcel of the broader issue of achieving successful social integration in the countries of settlement. They note that the desire and ability of immigrants to interact with the governance system may be dependent on the level of stability and security immigrants feel through securing steady jobs. Thus, for many immigrants, participation in environmental governance-related activities (e.g., a town hall meeting to discuss proposals) may not be high on their priorities in the absence of opportunities to earn a living. They may also not have the time or resources to participate (e.g., language barriers, or lacking a car for transport). Ortensi and Riniolo (2019) indicate that political participation among immigrants may be positively associated with higher levels of education, language proficiency, high socioeconomic status, high level of social trust, sense of belonging to the destination country, and acquisition of citizenship in the country of settlement. Thus, in addition to cultural factors, participation of immigrants in environmental governance process may be dependent on many individual socio-economic characteristics as they navigate living in their host countries (Pfeffer & Stycos, 2002).

Barriers to immigrant participation in environmental governance may also come from the governance system in the host countries. These include lack of voting rights among non-citizens and their consequent ineligibility to participate in local, regional, and national elections. Seidle (2015) notes that in countries where immigrants achieve citizenship and voting rights without great difficulty, they tend to mobilise and achieve political representation more easily. For instance, many residents of Toronto and other Canadian cities are denied voting rights in all levels of government because they are not Canadian citizens (Siemiatycki, 2014). Such factors related to the political system, in addition to lack of specific policy provisions, may discourage immigrants from actively participating in environmental issues that affect their communities. Thus, even though many immigrants may arrive in their new home countries “fully intending to integrate,” various socio-economic and political factors may hinder them from close interaction with the receiving communities (Wilson-Forsberg, 2014, p. 469).

The minimal interaction of immigrants with social processes within the broader community is likely to extend to the realm of participatory environmental and water governance as well. However, as the literature on this topic is limited, our understanding about this issue has remained generally poor. For instance, Moren-Alegret et al. (2018, 256) note that there has been “a lack of studies in sustainability and rural development disciplines that focus on exploring immigrant stakeholders’ perceptions and views.” Similarly, noting that immigrants’ environmental behaviour has been an understudied topic of interest, Medina et al. (2019, p. 3) emphasize that “future research should pursue evidence on how people who possess different cultural orientations or countries of origin translate environmentalism into the American cultural context.” Others note that the

viability of the environmental movement in general, but especially in large cities “with large populations of immigrants can be enhanced if environmental organisations develop means of integrating immigrants into environmental politics” (Pfeffer & Stycos, 2002, 278).

3. Methods: A systematic review approach

We conducted a systematic review of the literature in the area participatory water governance to determine whether or not, and the extent to which, these areas of scholarship consider participation of immigrants. A systematic review of the literature is done to determine the state-of-the art of a body of scholarship around a research question (Özerol et al., 2018). In this review, we followed best practice guidelines for undertaking systematic reviews as outlined in Guidelines for Systematic Review and Evidence Synthesis in Environmental Management (Collaboration for Environmental Evidence 2013).

The search was restricted to articles published in English and the search for key words was limited to titles, abstracts, and keywords in two major databases: Scopus and Web of Science. These fields were searched for key terms that relate to participative and collaborative water governance processes. We focused our search on the literature that explicitly acknowledges its ‘governance’ focus, rather than trying to also include phrases such as ‘management,’ ‘planning,’ and other similar terms. Thus, we adopted the following key terms in our search: “participative,” “collaborative,” and “water governance,” and their variations (i.e., participat,* collaborat;* the term ‘water’ includes prefixes such as ‘wastewater,’ ‘groundwater,’ etc.). The search was also limited to journal articles, excluded books, book chapters, and other kinds of literature. We believe that in the current publishing environment, journal articles provide good coverage of the latest high-quality research. The two major journal indexes (Scopus and Web of Science) were used to build the database of articles. Both databases offer broad and complete coverage of the relevant academic literature.

In addition, the systematic search was restricted to articles published in the fields of social sciences, arts, and multi-disciplinary fields; articles that used the search terms but were published in fields of the natural sciences and engineering, computer science, and other similar journals were excluded as we sought to maintain focus on governance as a form of social interaction.

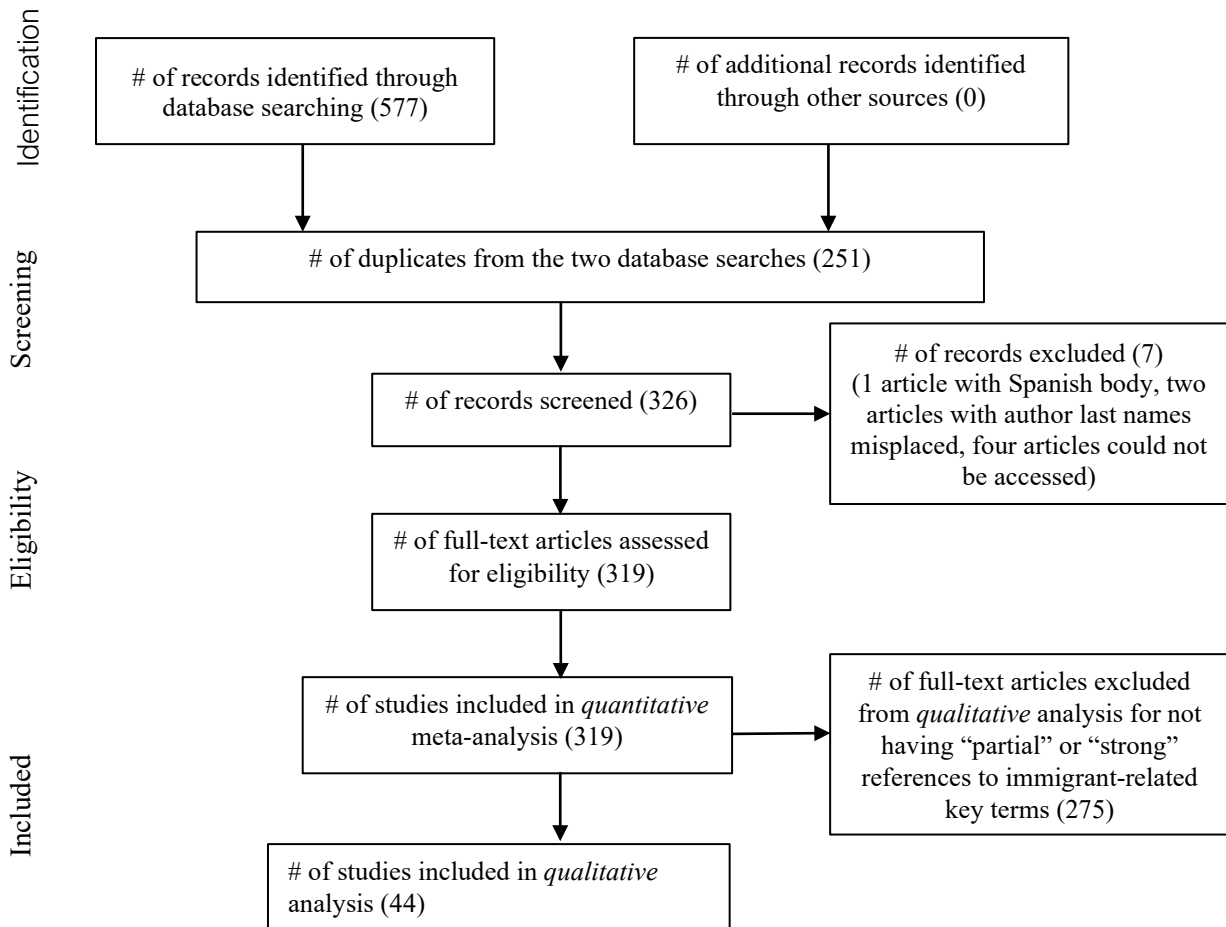


Figure 1: Data screening flowchart

In maintaining this focus on the literature that explicitly acknowledges its ‘governance’ emphasis, we exclude the more operational concepts of ‘management,’ ‘planning,’ and other similar terms. The dates for the search were restricted to articles published in the last five-year period between January 1st, 2015 and December 31st, 2019. This period is expected to have covered recent advances in the literature, while still incorporating previous development in theory and practice in the fields of participatory (including collaborative) water governance. To improve accuracy of the search process, two researchers independently ran the search queries.

The data management process in this review consisted of several steps. Relevant articles were downloaded and stored in Endnote. After data clean-up was completed (see Figure 1 above), the articles were imported and analysed in NVivo. Criteria were developed for categorising the articles depending on the extent to which they discuss the role of immigrants as a stakeholder group (Table 2 below).

From the identified articles that deal with stakeholder participation in water governance, qualitative data were extracted with NVivo through a process of coding using a predefined set of key terms. Based on the works of Bartram, Poros, and Monforte (2014), we used as our codes the following terms that have been identified as broadly representing key concepts in migration-related research:

- Migration
- Immigration
- Asylum seeker
- Refugees

- Culture
- Ethnicity
- Race
- Minorities

The coding first involved assessing how immigrants’ involvement in stakeholder participation is portrayed. Next, we conducted a qualitative study of the articles where the involvement of immigrants in water governance processes has been identified. We studied in detail the context and nature of participation, any formal or informal rules involved, special accommodations made to immigrants (e.g., to overcome language barriers), as well as policies in place from local, regional, and national governments to encourage immigrants’ participation. This is in line with the methods used for example by Obokata et al. (2014). This step provided insights into the complex contextual factors involved in participatory water governance processes and helps us understand the reasons for immigrants’ involvement or lack thereof.

Table 2: Criteria for categorising articles.

Consideration of immigrants in water governance research	Description
None	No acknowledgment of immigrants, either implicitly or explicitly
Minimal	<i>Identification</i> of immigrants as actors in governance processes without further discussion or analysis
Partial	Well-thought-out <i>acknowledgment</i> of immigrants as actors either as a group or individually but incomplete attention or thorough discussion or analysis
Strong	Demonstrated <i>recognition</i> of immigrants and the impacts they may have on participatory or collaborative water governance processes
Very strong	Well-thought-out <i>discussion</i> relating to the participation of immigrant communities in water governance processes

4. Results: Immigrants’ involvement considered in the literature

The initial search of the selected databases in this systematic review resulted in a total of 577 articles, including duplicates. After 251 duplicates were removed and further clean-up was done, the number of articles included in the study was reduced to 319 (Table 3). These 319 articles were then imported into an NVivo10 database for analysis using the key terms identified above (Migration, Immigration, Asylum-seeker, Refugees, Culture, Ethnicity, Race, and Minorities).

Table 3: Summary of literature search

Database/search term	Participat* AND “*water governance”	Collaborat* AND “*water governance”	Total
Scopus	128 [#]	96 [#]	224
Web of Science	49	46	95
Total	177	142	319

Excluding mutual double counts

In terms of the extent to which these articles considered the issue of immigrants’ cultural distinctiveness in participatory water governance, they can be grouped into four categories (Table 4). As Table 4 shows, the main finding from the review has been that the majority of the articles reviewed paid little attention to the issue of immigrants’ participation in water governance processes. Out of the six key terms we used in our coding, the term ‘culture’ had by far the largest references. Even then, the use of the term ‘culture’ (most of the 18 articles or 6% in Table 4) has not been in reference to immigrants as a cultural group.

Table 4: Articles that mention one or more of the six key terms.

Keywords and *stemmed forms	Occurrence in articles	Number of mentions in each article	Number of Articles	Percentage from total
Asylum* OR Culture* OR Ethnicity* OR Immigration* OR Migration* OR Minority* OR Race* OR Refugee*	None	0	45	14%
	Minimal	1–10	230	72%
	Partial	11–20	26	8%
	Strong	>21	18	6%

If, as Ricart et al. (2019), note “diversity of water cultures is an intrinsic feature of democracy,” then our review of the literature does not point towards western governance regimes being enriched by cultural diversity. Apart from the relatively large category of articles that emphasize the need to recognise the unique cultural relationships that Indigenous peoples have with water and nature broadly (Alexandra, 2019; Hoogesteger, 2015; Parkes, 2016), distinctive views, and cultural attachments that immigrants may bring to the arena do not receive much attention in the literature. The very few that do address immigrants have been mostly about rural-urban migration, the reasons for people to emigrate from a specific locality, as well as with some reference to historical migrations that gave rise to current conditions. For example, Diep (2018), Gahi et al. (2017), and MacDonald (2019) are some of the few that explicitly addressed the issue of migrants and water governance even though the geographic focus of these studies are Latin America, the Middle East, Central Asia, and North and West Africa rather than western democracies. Overall, however, we do not observe any sustained focus on the opportunities and barriers to immigrant participation in studies undertaken in the participatory water governance literatures that relate to western countries.

5. Discussion: The lack of research on immigrants’ involvement and its implications

Within the areas of participatory water governance literature, this review has shown that there clearly is a lacuna in the scholarship in addressing the potential cultural distinctiveness that immigrant communities may bring to societies in western democracies, as well as their needs, vulnerabilities, and rights to participate in water governance. The two bodies of literature (those that focus on ‘collaborative’ and those that focus on ‘participatory’) were not much different in this respect, and thus we discuss them here together. This review suggests that immigrants are treated just as another stakeholder group with essentially the same or similar underlying nature related ontology or worldview. This assumption is problematic. For instance, where European settlers to North America held a worldview in which people and culture were viewed as separate from nature, some of the more recent immigrants from the Global South hold relationships to their local waters that show more respect and reverence (Anderson, 2015). Disregarding such potential cultural uniqueness in participatory water governance approaches may arise from an assumption of similar environmental values, knowledge and behaviours across cultures and communities (Chatterjee, 2008; Dunlap, 2008; Head et al., 2019). However, such disregard may also negatively affect the very qualities that made participatory approaches to water governance appealing to practitioners in the first place.

Participation by members of the public and other non-state actors in water governance processes is usually

predicated on the potential of increased legitimacy for the governance process, greater equity, and trust among members of a community impacted by decisions, and improved effectiveness of governance processes (Godden & Ison, 2019; Jackson, 2019; Orr et al., 2016). During the past two decades, participation in water governance processes has been sought from actors such as industrial firms and organisations in the non-governmental and civil society sectors. However, as Godden and Ison (2019, p. 48) note, while new actors may press for inclusion, “the ‘institutional field’ for emergent entities is rarely a tabula rasa.” Recent examples of involvement of various Indigenous peoples in collaborative governance processes is an example of both the importance of appropriate engagement, and the challenges.

Immigrants are becoming an important citizen group in the countries that they settle and actively contribute to their economic growth and vitality through increases in innovation and productivity (Bernstein et al., 2019). However, this systematic review suggests that despite their importance in other contexts, immigrants are not yet seen as distinctively important groups in water governance processes. Thus, decisions taken without the involvement of immigrant groups, or which are not reflective of the perspectives of a significant section of the residents in immigrant rich communities, may suffer from lack of legitimacy (Adams et al., 2005; Connelly et al., 2006). As Orr et al. (2016) note, the legitimacy of decision-making is undermined when there is a lack of accountability to communities and their representatives. Hence, participatory approaches that do not specifically engage with the unique perspectives of immigrant communities may fall short from achieving the ideals of participative governance that they set out to fulfil in the first place, such as equity and justice (Lashley, 2016; Lukasiewicz & Baldwin, 2017; Meenar et al., 2018).

The widespread adoption of participatory approaches to governance has also been linked to improved quality of decision-making processes and outcomes. Involving experts, practitioners, and various stakeholder groups is thought to increase the quality of decisions (Barthel et al., 2017; Biddle, 2017). For example, the European Water Framework Directive mandates participation of citizens in river basin management planning across the EU with the aim of delivering better policy outputs and enhanced implementation results (Kochskämper et al., 2016). An important element in improving decisions is the different level of expertise, knowledge, perspectives, as well as the social and cultural meanings offered by the various stakeholder groups involved in such decision-making processes. As this review shows, however, the specific perspectives that immigrants to western countries bring with them may not be recognised or captured. This points to a missed opportunity to attend to their specific cultural needs with respect to water-related decision processes (Wilson-Forsberg, 2014). As a result, a valuable cultural input that may be potentially beneficial to water management and stewardship decisions may be lost. This is because “differences in environmental attitudes among migrants can be traced back to social values that persist in their countries of origin” (Litina et al., 2016, p. 131). As Kloek et al. (2018) show, the patterns of perception regarding nature and the environment lingers even after immigrants have been living for long periods in their destination countries in the west. In their empirical study of immigrants’ attitudes towards nature, Kloek et al. (2018) note that “how people perceive nature differs between ethnic groups, even though the immigrants included spent (most of) their youth in the Netherlands.” Other studies have supported the observation that immigrants’ cultural tendencies stay with them for a long time (Ma, 2019). Yet almost none of the participatory governance studies considered in this review acknowledge this important cultural factor, and fail to engage with this distinct stakeholder group.

The benefits of recognising and accounting for the distinct perspectives of, and special status of Indigenous peoples in water governance processes are being recognised in places such as Australia, Canada, and New Zealand (Diver 2018; Lukawiecki et al., 2019; Poelina et al., 2019). Our findings of limited reference to immigrants in the literature point to the need for also recognising and accounting for the distinctive perspectives that new immigrants can bring to water governance processes. As Yan et al. (2016) indicate, the values that guide environmental decision-making are “fundamentally cultural.” Creating space for immigrants’ involvement in water governance issues that concern them will also contribute to equity and justice. This point is crucial in the transition to a sustainable water governance regime, as “a sustainable society must also be a

just society” (Agyeman, Bullard & Evans 2003, p. 3). As Blue et al. (2019) argue, the participation of various groups in society, and the recognition and respect of their worldviews in participatory approaches to environmental governance is directly related to how just the process is perceived. In some cases, environmental initiatives that ostensibly create spaces for the involvement and empowerment of minority and immigrant groups may contribute towards “reproducing socio-spatial inequalities” by increasing spatial segregation and marginalisation of migrant dominated communities (Newman, 2011, p. 192).

From this perspective, the issue of positively engaging immigrant groups as a distinct group of stakeholders with unique cultural attachments, needs, and vulnerabilities within participatory water and environmental governance processes is intimately tied to their rights as residents and citizens in their new home countries (De'Arman, 2020). Some authors have also raised equity considerations about access (or lack thereof) by immigrants to water-related benefits and the decision-making process. In their discussion of water equity in the US, Gerlak et al. (2022) note that many immigrants live in unincorporated residential areas along the US-Mexico border in California, Arizona, New Mexico, and Texas, in communities that are often located on flood plains or with substandard housing. As these residences often lie outside the jurisdiction of nearby municipalities or utility districts, they often lack basic water infrastructure. Similarly, London et al. (2018) note that in these Disadvantaged Unincorporated Communities immigration status is the strongest predictor of water insecurity. Outside the US, Laurian (2008) highlights the problem of immigrants living in areas with poor water sanitation and inadequate water infrastructure in France.

Based on statistical analysis, the author found that urban areas that have more immigrants are also more likely to have hazardous sites, including illegal dumps, landfills, incinerators, and polluted lands. In addition to addressing issues of equity and justice, immigrants may have a variety of other reasons to participate in water-related decision-making that affects them. Unfortunately, the literature often portrays them as a burden to host countries undermining their potential to “productively contribute” to addressing environmental issues such as climate change (de Guttery et al., 2016).

Limited attention to the potential benefits from a focused engagement with the environmental values and world views that immigrants hold may also impact the effectiveness of policies enacted for water and environmental sustainability. Environmental policies and narratives of sustainability in the west have generally prioritised Western beliefs and behaviours, and encouraged the adoption of these beliefs and behaviours by immigrants (Ma, 2019). This approach generally ignores pro-environmental practices by ethnic minorities that have been undertaken even for reasons not related to sustainability such as saving money (Chatterjee, 2008; Klocker & Head, 2013). Such observations may also be a reflection of the fragmented nature of the research that deals with the issue of environmental behaviour of immigrant communities.

In their review on immigrant use of green spaces in northwest Europe, Kloek et al. (2013) found that studies in this area are fragmented and would benefit from the use of frameworks to guide research efforts and compare results between countries. They also identified limitations of how immigrant groups are studied, where either only a subset of immigrants is explicitly studied, or grouped into overly broad categories, or the interactions of multiple factors (e.g., age, gender) are not understood. Similarly, Medina et al. (2019) found that the existing literature has generally been overly simplifying its assessment of ethnic minority groups and as such there is no shared consensus on the level of environmental concern expressed or acted on by ethnic minority groups. They also find that existing research has not been sensitive enough to diverse ethnic groups, cultural diversity, or the influence of other factors such as economics on environmental behaviours (Medina et al., 2019).

6. Conclusion

This systematic review demonstrates that there has only been limited attention by researchers to the involvement of immigrants in participative water governance processes in western countries. This finding

suggests that immigrants' potentially distinct environmental values, cultural views, needs, and vulnerabilities with respect to water and the environment may be overlooked and potential benefits from incorporating their views missed. The general disregard to meaningfully engage with immigrants in participatory governance processes may also have implications for issues of social justice, perceived fairness of public policies, as well as the effectiveness of policy implementation in a community with significant immigrant presence. To achieve inclusive participatory water governance, researchers would need to be more deliberate in their research designs to be able to assess whether voices from immigrant communities are being represented in participatory water governance settings. Such a reevaluation may help both practitioners and researchers to come up with innovative and better approaches that are sensitive to cultural differences, worldviews, and values in a participatory setting. More research is also needed in this area, especially in developing a common research framework that enables the cross fertilisation of research findings and insights among research communities working at the intersection of immigration, culture, and environmental governance.

References

- Adams, J.; Kraft, S.E.; Ruhl, J.B.; Lant, C; Loftus, T. and Duram, L. 2005. Watershed Planning: Pseudo-Democracy and Its Alternatives - The Case of the Cache River Watershed, Illinois. *Agriculture and Human Values* 22(3): 327–338.
- Agyeman, J.; Bullard, R.D. and Evans, B. (Eds). 2003. *Just Sustainabilities: Development in an Unequal World*. London: Earthscan.
- Akhmouch, A. and Clavreul, D. 2016. Stakeholder Engagement for Inclusive Water Governance: Practicing What We Preach with the OECD Water Governance Initiative. *Water* 8(5).
- Alexandra, J. 2019. Losing the Authority - What Institutional Architecture for Cooperative Governance in the Murray Darling Basin? *Australasian Journal of Water Resources* 23(2): 99–115.
- Anderson, S. 2015. Remembering Water: Immigrant Water Narratives in the Waterloo Region. MSc thesis. University of Waterloo, Waterloo, Canada.
- Anggraenia, M.; Gupta, J. and Verresta, H.J.L.M. 2019. Cost and Value of Stakeholders' Participation: A Systematic Literature Review. *Environmental Science & Policy* 101: 364–373.
- Arsenault, R.; Diver, S.; McGregor, D.; Witham, A. and Bourassa, C. 2018. Shifting the Framework of Canadian Water Governance through Indigenous Research Methods: Acknowledging the Past with an Eye on the Future. *Water (Switzerland)* 10(1).
- Barthel, R.; Foster, S. and Villholth, K.G. 2017. Interdisciplinary and Participatory Approaches: The Key to Effective Groundwater Management. *Hydrogeology Journal* 25(7): 1923–1926.
- Bartram, D.; Poros, M.V. and Monforte, P. 2014. *Key Concepts in Migration*. London: SAGE Publications Ltd.
- Bernstein, S.; Diamond, R.; McQuade, T. and Pousada, B. 2019. The Contribution of High-Skilled Immigrants to Innovation in the United States. *Stanford University*. https://web.stanford.edu/~diamondr/BDMP_2019_0709.pdf Accessed June 14 2020
- Bettini, G. 2019. And Yet It Moves! (Climate) Migration as a Symptom in the Anthropocene. *Mobilities* 14(3): 336–350.
- Bhuyan, R.; Jeyapal, D.; Ku, J.; Sakamoto, I. and Chou, E. 2015. Branding 'Canadian Experience' in Immigration Policy: Nation Building in a Neoliberal Era. *Journal of International Migration and Integration* 18(1): 47–62.
- Biddle, J. C. 2017. Improving the Effectiveness of Collaborative Governance Regimes: Lessons from Watershed Partnerships. *Journal of Water Resources Planning and Management* 143(9).
- Blue, G.; Rosol, M. and Fast, V. 2019. Justice as Parity of Participation. *Journal of the American Planning Association* 85(3): 363–376.
- Brisbois, M.C. and de Loë, R. 2016. Power in Collaborative Approaches to Governance for Water: A Systematic Review. *Society & Natural Resources* 29 (7): 775–790.

- Challies, E.; Newig, J.; Thaler, T.; Kochskamper, E. and Levin-Keitel, M. 2016. Participatory and Collaborative Governance for Sustainable Flood Risk Management: An Emerging Research Agenda. *Environmental Science & Policy* 55: 275–280.
- Chatterjee, D. 2008. Oriental Disadvantage Versus Occidental Exuberance: Appraising Environmental Concern in India – A Case Study in a Local Context. *International Sociology* 23 (1): 5–33.
- Cisneros, P. 2019. What Makes Collaborative Water Governance Partnerships Resilient to Policy Change? A Comparative Study of Two Cases in Ecuador. *Ecology and Society* 24 (1).
- Collaboration for Environmental Evidence. 2013. *Guidelines for Systematic Review and Evidence Synthesis in Environmental Management*. Vol. Version 4.2.: Environmental Evidence.
- Connelly, S.; Richardson, T. and Miles, T. 2006. Situated Legitimacy: Deliberative Arenas and the New Rural Governance. *Journal of Rural Studies* 22(3): 267–277.
- De'Arman, K.J. 2020. Is Public Participation Public Inclusion? The Role of Comments in US Forest Service Decision-making. *Environmental Management* 66: 91–104.
- de Guttery, C.; M. Döring, and B. Ratter. 2016. Challenging the Current Climate Change – Migration Nexus: Exploring Migrants' Perceptions of Climate Change in the Hosting Country. *Journal of the Geographical Society of Berlin* 147(2): 109–119.
- De Haas, H. 2021. A Theory of Migration: The Aspirations-Capabilities Framework. *Comparative Migration Studies*, 9(1), 1–35.
- Deng, J.; Walker, J. G. and Swinnerton, G. 2006. A Comparison of Environmental Values and Attitudes between Chinese in Canada and Anglo-Canadians. *Environment and Behaviour* 38(1): 22–47.
- Diep, L. 2018. The Liquid Politics of an Urban Age. *Palgrave Communications* 44(76).
- Diver, S. 2018. Native Water Protection Flows through Self-Determination: Understanding Tribal Water Quality Standards and Treatment as a State. *Journal of Contemporary Water Research & Education* 163(1): 6–30.
- Dunlap, R.E. 2008. The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education* 40(1): 3–18.
- Escott, H.; Beavis, S. and Reeves, A. 2015. Incentives and Constraints to Indigenous Engagement in Water Management. *Land Use Policy* 49: 382–393.
- Euler, J. and Heldt, S. 2018. From Information to Participation and Self-Organization: Visions for European River Basin Management. *Science of the Total Environment* 621: 905–914.
- Fritsch, O. 2019. Participatory Water Governance and Organisational Change: Implementing the Water Framework Directive in England and Wales. *Water* 11(5).
- Gahi, N.Z.; Dongo, K; Koudou, A and Badolo, M. 2017. Innovative Approach to Build a No Regret Framework for Reinforcing Agricultural Water Resilience Under Climate Risks and Change in Burkina Faso. *International Journal of Climate Change Strategies and Management* 9(1): 68–86.
- George, G.; Selimos, E.D. and Ku, J. 2015. Welcoming Initiatives and Immigrant Attachment: The Case of Windsor. *Journal of International Migration and Integration* 18 (1): 29–45.
- Gerlak, A. K., Louder, E., & Ingram, H. (2022). Viewpoint: An Intersectional Approach to Water Equity in the US. *Water-alternatives*. 15(1): 1–12.
- Godden, L., and Ison, R. 2019. Community Participation: Exploring Legitimacy in Socio-Ecological Systems for Environmental Water Governance. *Australasian Journal of Water Resources* 23 (1): 45–57.
- Head, L.; Klocker, N. and Aguirre-Bielschowski, I. 2019. Environmental Values, Knowledge and Behaviour: Contributions of an Emergent Literature on the Role of Ethnicity and Migration. *Progress in Human Geography* 43(3): 397–415.
- Hoogesteger, J. 2015. Normative Structures, Collaboration and Conflict in Irrigation: A Case Study of the Píllaro North Canal Irrigation System, Ecuadorian Highlands. *International Journal of the Commons* 9(1): 398–415.
- Huitema, D.; Mostert, E.; Egas, W.; Moellenkamp, S.; Pahl-Wostl, C. and Yalcin, R. 2009. Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a

- Governance Perspective and Defining a Research Agenda. *Ecology and Society* 14(1).
- Irvin, R., and Stansbury, J. 2004. Citizen Participation in Decision-making: Is It Worth the Effort? *Public Administration Review* 64(1): 55–65.
- Jackson, S. 2019. Building Trust and Establishing Legitimacy Across Scientific, Water Management and Indigenous Cultures. *Australian Journal of Water Resources* 23(1): 14–23.
- Kerr, G.N.; Hughey, K.F.D. and Cullen, R. 2016. Ethnic and Immigrant Differences in Environmental Values and Behaviours. *Society and Natural Resources* 29(11): 1280–1295.
- Klocker, N., and Head, L. 2013. Diversifying Ethnicity in Australia's Population and Environment Debates. *Australian Geographer* 44(1): 41–62.
- Kloek, M.E.; Buijs, A.; Boersema, J.J. and Schouten, M.G.C. 2013. Crossing Borders: Review of Concepts and Approaches in Research on Greenspace, Immigration and Society in Northwest European Countries. *Landscape Research* 38(1117–140).
- . 2018. Cultural Echoes in Dutch Immigrants' and Nonimmigrants' Understandings and Values of Nature. *Journal of Environmental Planning and Management* 61(5-6): 818–840.
- Kochskämper, E.; Challies, E.; Newig, J. and Jager, N. W. 2016. Participation for Effective Environmental Governance? Evidence from Water Framework Directive Implementation in Germany, Spain, and the United Kingdom. *Journal of Environmental Management* 181: 737–748.
- Koehler, B. and Koontz, T.M. 2008. Citizen Participation in Collaborative Watershed Partnerships. *Environmental Management* 41: 143–154.
- Koontz, T.M., and Newig, J. 2014. From Planning to Implementation: Top-Down and Bottom-Up Approaches for Collaborative Watershed Management. *The Policy Studies Journal* 42(3): 416–442.
- Lashley, S.E. 2016. Pursuing Justice for All: Collaborative Problem-Solving in the Environmental Justice Context. *Environmental Justice* 9(6): 188–194.
- Laurian, L. 2008 Environmental Injustice in France, *Journal of Environmental Planning and Management*, 51:1, 55–79
- Leach, W.D. 2006. Collaborative Public Management and Democracy: Evidence from Western Watershed Partnerships. *Public Administration Review* (special issue): 100–110.
- Litina, A.; Moriconi, S. and Zanaj, S. 2016. The Cultural Transmission of Environmental Values: A Comparative Approach. *World Development* 84: 131–148.
- Liu, Y. and Segev, S. 2017. Cultural Orientations and Environmental Sustainability in Households: A Comparative Analysis of Hispanics and Non-Hispanic Whites in the United States. *International Journal of Consumer Studies* 41(6): 587–596.
- London, J., Fencl, A., Watterson, S., Jarin, J., Aranda, A., King, A., Camille, P., Seaton, P., Firestone, L., Dawson, M. and Nguyen, P. 2018. The Struggle for Water Justice in California's San Joaquin Valley: A Focus on Disadvantaged Unincorporated Communities. UC Davies Center for Regional Change. <https://regionalchange.ucdavis.edu/sites/g/files/dgvnsk986/files/inline-files/The%20Struggle%20for%20Water%20Justice%20FULL%20REPORT.pdf> accessed Jan 10 2024.
- Lukasiewicz, A. and Baldwin, C. 2017. Voice, Power, and History: Ensuring Social Justice for All Stakeholders in Water Decision-making. *Local Environment* 22(9): 1042–1060.
- Lukawiecki, J.; Gagnon, R.; Dokis, C.; Walters, D. and Molot, L. 2019. Meaningful Engagement with Indigenous Peoples: A Case Study of Ontario's Great Lakes Protection Act. *International Journal of Water Resources Development*.
- Ma, Guizhen. 2019. Similar or Different? A Comparison of Environmental Behaviours of US-born Whites and Chinese Immigrants. *Journal of International Migration and Integration* 20(4): 1203–1223.
- MacDonald, K. 2019. The User and the Association: Neglecting Household Irrigation as Neglecting Household Well-Being in the Creation of Water Users' Associations in the Republic of Tajikistan. *Water* 11(3).
- McFarland, K. 2019. Movements of the Future: Environmental Change, Its Effect on Migration and Policy Responses. *International Review of Sociology* 29(2): 159–171.

- Medina, V.; DeRonda, A.; Ross, N.; Curtin, D. and Jia, F. 2019. Revisiting Environmental Belief and Behaviour Among Ethnic Groups in the US. *Frontiers in Psychology* 10: 6.
- Meenar, M.; Fromuth, R. and Soro, M. 2018. Planning for Watershed-Wide Flood-Mitigation and Stormwater Management Using an Environmental Justice Framework. *Environmental Practice* 20(2-3): 55–67.
- Milton, N. and Lepage, L. 2010. From a Participative Framework to Communities' Realities: The Challenges of Implementing Stakeholder Involvement in Quebec Watershed Management, Canada. In Berry, K.A. and Mollard, E. (Eds), *Social Participation in Water Governance and Management: Critical and Global Perspectives*, pp. 137–160. London: Earthscan.
- Moren-Alegret, R.; Fatoric, S.; Wladyka, D. and Mas-Palacios, A. 2018. Challenges in Achieving Sustainability in Iberian Rural Areas and Small Towns: Exploring Immigrant Stakeholders' Perceptions in Alentejo, Portugal, and Empordà, Spain. *Journal of Rural Studies* 64: 253–266.
- National Research Council. 2008. *Public Participation in Environmental assessment and Decision Making*. Washington, D.C.: The National Academies Press.
- Newig, J. and Fritsch, O. 2009. Environmental Governance: Participatory, Multi-Level -- and Effective? *Environmental Policy and Governance* 19(3): 197–214.
- Newman, A. 2011. Contested Ecologies: Environmental Activism and Urban Space in Immigrant Paris. *City & Society* 23(2): 192–209.
- OECD International Migration Outlook 2023 available at <https://www.oecd-ilibrary.org/sites/040659fd-en/index.html?itemId=/content/component/040659fd-en> accessed Jan 10, 2024.
- Obokata, R.; Veronis, L. and McLeman, R. 2014. Empirical Research on International Environmental Migration: A Systematic Review. *Population and Environment* 36: 111–135.
- Orr, C.J.; Adamowski, J.F.; Medema, W. and Milot, N. 2016. A Multi-Level Perspective on the Legitimacy of Collaborative Water Governance in Quebec. *Canadian Water Resources Journal* 41(3): 353–371.
- Ortensi, L.E. and Riniolo, V. 2019. Do Migrants Get Involved in Politics? Levels, Forms and Drivers of Migrant Political Participation in Italy. *Journal of International Migration and Integration* 21(1): 133–153.
- Özerol, G.; Kruijff, M.; Brisbois, M.C.; Flores, C.C.; Deekshit, P.; Girard, C.; Knieper, C.; Mirnezami, S.J.; Ortega-Reig, M.; Ranjan, P.; Schroeder, N.J.S. and Schroeter, B. 2018. Comparative Studies of Water Governance: A Systematic Review. *Ecology and Society* 23(4).
- Parkes, M.W. 2016. Pacific Connections for Health, Ecosystems and Society: New Approaches to the Land-Water-Health Nexus. *Reviews on Environmental Health* 31(1): 125–130.
- Parkins, J.R.; and Sinclair, A.J. 2014. Patterns of Elitism within Participatory Environmental Governance. *Environment and Planning C: Government and Policy* 32(4): 746–761.
- Pfeffer, M.J. and Stycos, J.M. 2002. Immigrant Environmental Behaviours in New York City. *Social Science Quarterly* 83(1): 64–81.
- Poelina, A.; Taylor, K.S. and Perdrisat, I. 2019. Martuwarra Fitzroy River Council: An Indigenous Cultural Approach to Collaborative Water Governance. *Australasian Journal of Environmental Management* 26(3): 236–254.
- Pullin, A.S. and Stewart, G.B. 2006. Guidelines for Systematic Review in Conservation and Environmental Management. *Conservation Biology* 20(6): 1647–1656.
- Reed, M.S. 2008. Stakeholder Participation for Environmental Management: A Literature Review. *Biological Conservation* 141(10): 2417–2431.
- Ricart, S.; Kirk, N. and Ribas, A. 2019. Ecosystem Services and Multifunctional Agriculture: Unravelling Informal Stakeholders' Perceptions and Water Governance in Three European Irrigation Systems. *Environmental Policy and Governance* 29(1): 23–34.
- Ricart, S.; Rico, A.; Kirk, N.; Bulow, F.; Ribas-Palom, A. and Pavon, D. 2019. How to Improve Water Governance in Multifunctional Irrigation Systems? Balancing Stakeholder Engagement in Hydrosocial Territories. *International Journal of Water Resources Development* 35(3): 491–524.
- Seidle, F. L. 2015. Local Voting Rights for Non-Nationals: Experience in Sweden, the Netherlands and Belgium. *Journal of International Migration and Integration* 16(1): 27–42.

- Shamseer, L.; Moher, D.; Clarke, M.; Gherzi, D.; Liberati, A.; Petticrew, M.; Shekelle, P.; Stewart, L.A. and the Prisma Group. 2015. Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols (PRISMA-P) 2015: Elaboration and explanation. *The BMJ* Open Access.
- Shepard, C.C.; Crain, C.M. and Beck, M.B. 2011. The Protective Role of Coastal Marshes: A Systematic Review and Meta-analysis. *PloS ONE* 6(11).
- Siemiatycki, M. 2014. Non-citizen Voting Rights and Urban Citizenship in Toronto. *Journal of International Migration and Integration* 16(1): 81–97.
- Smith, A. and Ali, M. 2006. Understanding the Impact of Cultural and Religious Water Use. *Water and Environment Journal* 20: 203–209.
- Tortajada, C. 2014. IWRM Revisited: From Concept to Implementation. *International Journal of Water Resources Development* 30(3): 361–363.
- United Nations. 2017. World Population Prospects - The 2017 Revision: Key Findings and Advance Tables. New York.
- United Nations Educational, Scientific and Cultural Organization (UNESCO) 2012. Water, Cultural Diversity, and Global Environmental Change: Emerging Trends, Sustainable Futures? Paris, France.
- van der Lee, J.J. 2000. Participative Water Resource Allocation and Decision-making in Australia. Center for Water Policy Research, University of New England. Armidale, NSW, Australia.
- Verba, S., K. L. Schlozman, H. Brady, and N. H. Nie. 1993. Race, Ethnicity and Political Resources: Participation in the United States. *British Journal of Political Science* 23 (4): 453–497
- von der Porten, S. and de Loë, R.C. 2014. How Collaborative Approaches to Environmental Problem-solving View Indigenous Peoples: A Systematic Review. *Society and Natural Resources* 27(10): 1040–1056.
- von Korff, Y.; Daniell, K.A.; Moellenkamp, S.; Bots, P. and Bijlsma, R.M. 2012. Implementing Participatory Water Management: Recent Advances in Theory, Practice, and Evaluation. *Ecology and Society* 17(1): 30.
- Wilson-Forsberg, S. 2014. 'We Don't Integrate; We Adapt': Latin American Immigrants Interpret their Canadian Employment Experiences in Southwestern Ontario. *Journal of International Migration and Integration* 16(3): 469–489.
- . 2015b. Thinking with Salmon about Rain Tanks: Commons as Intra-Actions. *Local Environment* 20(5): 581–599.
- Yan, L.; McManus, P. and Duncan, E. 2016. Understanding Ethnic Differences in Perceptions, Attitudes, and Behaviours: A Study of Domestic Water Use in Sydney. *Geographical Research* 56 (1): 54–67.