

Contemporary Cultural Significance of the Lower Jordan River Basin: The Intersection Between Jordan River as an Ecological Political Border and the Cultural Significance

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Abstract

For centuries, governments have employed landscape features as political boundaries. Beyond their natural beauty and ecological significance as natural elements in the landscape, rivers have served as borderlines, defining cultural identities and facilitating both connections and conflicts. Rivers function as geographical features and symbolize political, cultural, and social divisions, significantly impacting the lives of those residing along their shores and banks. The Jordan River Basin exemplifies this as a "Blueway," acting not only as an ecological corridor but as a cultural and political pathway that reflects the intertwined history and sensitivities of the region. According to the river-continuum theory, rivers should be seen as corridors and part of the ecological network, distinguished by their longitudinal and unidirectional characteristics. This theory states that rivers are essentially passive channels for the movement of materials and nutrients. Consequently, serve as natural borders within the landscape along with its deep cultural and political values. The aim of this research is to identify Jordan River Basin demographic groups that demonstrate more robust modern relationships between cultural significance and the perception of the river's cultural value. The main research questions are:

1. How do different communities within the Lower Jordan River Basin perceive the cultural significance of the region?
2. To what extent do cultural significance and conservation efforts intersect in the Lower Jordan River Basin?
3. What is the effect of Political boundaries on the cultural significance of the Lower Jordan River Basin?

The Jordan River serves as a significant case study in understanding the complex interplay between ecological and cultural dimensions. Its role as a political boundary reflects historical treaties and conflicts that have shaped the region's geopolitical landscape. Acknowledging the cultural and political sensitivities of the location, a survey was distributed in the area of the Jordan River basin in three languages—Arabic, Hebrew, and English—to ensure accessibility for the diverse populations residing the area. The answers then were analyzed statistically using SPSS to explore the correlation between the mentioned variables related to each research question.

The survey results revealed varied perceptions of cultural significance across communities, influenced by regional sensitivities and historical affiliations among communities along the Jordan River. A positive link between cultural significance and conservation efforts is likely, suggesting that cultural heritage drives environmental awareness. Political boundaries may shape or divide cultural identities, impacting shared narratives and fostering either tension or cooperation.

Introduction

In their essence, rivers are not merely natural waterways; they are essential arteries of civilization, shaping environmental and mankind's history, and reflecting struggles and victories of the geopolitical landscape (Wantzen et al. 2016). Rivers have a long history in providing identity, becoming international boundaries, and fostered both connections and conflicts from the Nile River (Swain 2011), the Danube River (Hardi 2012), and more specifically the Jordan River. These functions are best represented by the Lower Jordan River Basin, which, as a place of rich historical depth and complexity as well as contemporary challenges, exemplifies a fascinating intersection of ecological, cultural and political aspects. This research positions the Jordan River Basin not as a passive feature but as an active agent in the interplay of ecology, culture, and politics.

The Jordan River Basin is ecologically unparalleled, serving as a “Blueway” that sustains biodiversity through its critical role as an ecological corridor. According to (Puth and Wilson 2001) the river continuum theory indicates that rivers serve as a complex network which maintain ecosystems that in turn supports and distributes essential nutrients to broad landscapes. However, Jordan River plays an emblematic role due to its spiritual and cultural value that signifies more than just natural processes. The river has long been associated with purity, redemption, and sanctification, since it is mentioned in the sacred writings of Judaism, Christianity, and Islam. However, such a strong cultural connection has not protected the river from deterioration or conflict (Peppard 2013). Today, the Jordan River is one of the most endangered water bodies due to pollution, illegal over-extraction of water, and poor management (Khoury 2009).

Politically, the geopolitical story of the river is characterized by disputed treaties, shifting alliances, and the effects of colonial demarcation. The river also offers the chance for collaboration and cooperation, as well as a contentious resource. The competing claims over its waters highlight issues of over-reach and control that are more deep-seated within the wider Middle Eastern geopolitical context. Despite these disputes, the river has the latent ability to unite people through shared environmental and cultural responsibilities (Deconinck 2023).

The Lower Jordan River Basin remains a site of geopolitical and environmental complexity, where historical tensions continue to shape contemporary realities. While past conflicts centered on territorial claims and water rights, recent developments highlight ongoing disparities in resource access and governance. The basin is primarily shared by Jordan, Israel, and Palestine, each facing distinct but interconnected challenges regarding water scarcity, pollution, and equitable distribution. The Israeli-Palestinian water conflict is marked by Israel's control over key water sources, restricting Palestinian access despite provisions in the Oslo Accords. Meanwhile, Jordan and Israel, though historically in conflict over water, have engaged in cooperative initiatives such as the 1994 Peace Treaty and the 2015 Red-Dead Canal project. However, tensions persist over water quality, allocation during droughts, and the broader impacts of regional instability. Climate change further exacerbates these challenges, as declining rainfall and rising temperatures intensify water scarcity, making sustainable management and diplomatic negotiations increasingly urgent (Climate Diplomacy 2024).

A critical gap persists in the academic dialogue concerning the many aspects influenced by the River Jordan. Although most are aware of its ecological deterioration and the conflicts over

territory, the link between its culture and its environmental conservation remains largely neglected. The influence of political borders on cultural identity and on international conservation is specifically researched to a limited extent which results in a rather crude picture of how the three issues interrelate. This is disadvantageous in the context of trying to develop coherent strategies aimed at dealing with the natural conservation and the cultural aspect of the Jordan River basin parallel with the political division.

Addressing this gap is further complicated by several limitations. Site visits to the Lower Jordan River Basin are prohibited by logistical and political challenges, while available data is outdated, fragmented, or shaped by political bias. Limited access to diverse perspectives, including those of local communities and policymakers, constrains the scope of analysis, and the political sensitivity of the topic risks introducing incomplete or twisted narratives. These constraints highlight the complexity of developing a nuanced understanding of the Jordan River's cultural and ecological interplay.

Background and Literature Review

The Lower Jordan River Basin has emerged as a unique element and an ecological lifeline, a regional cultural landmark as well as a political territory shaping a multidimensional significance. The state of the river presents a paradox as discussed by Peppard (2013), while the river is globally portrayed as an icon of unification and holiness in the contexts of culture and religion, its ecological dilapidation and political contention of the riparian countries, projects disintegration. Similar studies highlight that there has been a significant change in the hydro-system and its capacity as a biodiversity corridor indeed has been altered due to anthropogenic factors such as water diversion for irrigation, urbanization and untreated sewage disposal (Hillel et al. 2015).

Indeed, the Jordan River is of geopolitical significance, owing to its historical accounts of ecological and cultural association. However, despite the arguments of historical significance, these cultural links have not been able to prevent the river from being misused because of modern resource conflicts. International treaties such as the Israel Jordan Peace Treaty of 1994 have paid attention to such resource distribution but are strategic aimed at political interests rather than maintaining and restoring the ecological balance of the river (United Nations 2019).

Deeply rooted political divisions tend to obstruct cross-border collaboration efforts, demonstrating the complex relationship between the ecological degradation and geopolitical tensions. But the River Continuum Concept contextualizes this dynamic by focusing on the 'multi-dimensional' perspective and the role of rivers as interconnected networks of nutrient flow and habitat continuity (Puth and Wilson 2001). The damaging and polluting activities directed at the Jordan River interfered with such processes, which highlighted that these relations must be taken in a holistic manner focusing on the ecological, cultural and political concerns (Conca and Dabelko 2018).

Reconnecting to the cultural narratives related to the Jordan River could be an important factor in gaining people's support to advance the conservation efforts (Anderson et al. 2019) Treating the river as a religious and a shared element in the landscape provides a solution to wider problems that call for joint efforts. Community based projects such as those promoted and supported by

EcoPeace Middle East demonstrate the power of the people to overcome politics (Conca and Dabelko 2018). However, without sustained government support and policy alignment all these efforts remain fragile.

Despite extensive research, significant gaps persist in understanding the ecological, cultural and political intersection of the river. Several studies focus on these aspects in isolation which consequently results in fragmented conservation strategies that fail to address their interdependence. There is a lack of literature that analyses how entire communities understand the significance of the river and how these perceptions are useful in forming management strategies that are inclusive and efficient. These gaps can be filled through a holistic approach that combines ecological sustainability, cultural preservation and cross-border governance with a focus on the local context.

Political boundaries play a commanding role in shaping the cultural and ecological narratives surrounding the Jordan River (Awwad 2020). These boundaries not only hinder cooperation but also harm the local cultural ties to the river, thus aggravating efforts to protect its shared heritage. It explains the necessity of modifying the inter-sectional perspective which strengthens that cultural identity and serves as the intersection of political power and ecological aspects. Economically, it is also important to promote a common understanding of the value of the river and its effective protection (Becker, Helgeson, and Katz 2014). The literature on cultural heritage management, in particular (Velandar 2014), advocates an approach that is able to transcend political division by integrating culture into the conservation agenda.

The initiatives taken for the conservation of the respective region often center on ecological restoration without considering the cultural significance of the river to the different communities. As in the case conducted by (Shang et al. 2012), tailoring conservation approaches to encompass what local people value increases their efficiency and gathers local support. Understanding this intersection might also result in new policies that would be more integrated and less conflicting in ecological and cultural aspects.

Method and Data

The study was conducted within the Lower Jordan River Basin. A region of ecological, cultural, and political significance. The selection of the study area was based on its diverse character as it is a home for diverse population with distinct cultural, religious, and national identities. The Lower Jordan River Basin is a highly populated and economically significant region, particularly in Jordan. It includes approximately 83% of Jordan's total population and houses most of the country's major industries, irrigated agriculture, and water resources. While exact recent figures for the total population of the entire basin (including areas in Israel, Palestine, and Jordan) are not readily available, Jordan's portion of the basin is home to the vast majority of the country's population, which was estimated at around 11.5 million in 2024 (Courcier et al. 2005).

The study area borders parts of Yarmouk River from the north east and contains Zarqa River from the east while it reaches the borders of the Dead Sea from the south as shown in Figure 1.

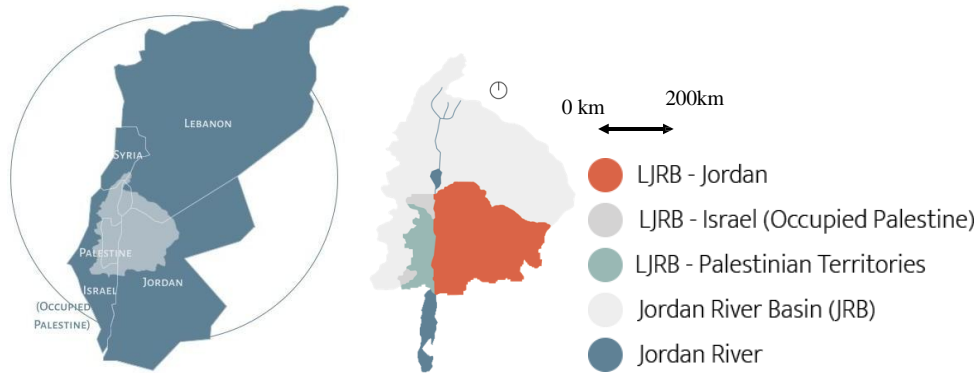


Figure 1. The Lower Jordan River Basin (By Author)

Due to logistical and political challenges, direct site visits to the area were not feasible, restricting opportunities for field studies. To address these limitations, surveys were distributed as the primary tool for data collection. A random sampling approach was used, allowing participation from a wide demographic, including local communities, policymakers, and students. To ensure inclusivity, the survey was open to individuals aged 15 to 65 years which represents the economically active segment of the population and aimed to gather perspectives across different societal roles. The study initially targeted 500 respondents based on the rule of thumb, achieving a final sample size of 424 participants, which provides a substantial dataset for analyzing demographic patterns and regional perceptions of the river.

These surveys were designed to capture the perceptions of diverse demographic groups regarding the cultural and ecological significance of the river. The surveys were designed in Arabic, Hebrew and English to encompass the linguistic diversity of the region. The surveys were distributed through a number of different methods such as paper print and online platforms. Responses were collected during specific time frames and were aimed at obtaining demographic data specific to the Lower Jordan River Basin which were categorized into key demographic groups as follows (Table 1):

Table 1. Demographical Categories (By Author)

A	B	C	D	E	F	G
Jordanians, Muslims, living in Jordan.	Jordanians, Christians, living in Jordan.	Palestinians with Palestinian passports, Muslims, living in Jordan.	Palestinians with Palestinian passports, Muslims, living in Palestine.	Palestinians with Israeli passports, Muslims, living in Israel.	Palestinians with Israeli passports, Muslims, living in Palestine.	Israeli Jewish, living in Israel.

These demographic groups were organized as independent variables in SPSS for statistical analysis, forming the basis for addressing the study's research questions.

- Research Question 1: How do different communities within the Lower Jordan River Basin perceive the cultural significance of the region?

The collected survey responses were analysed to evaluate perceptions of cultural significance and awareness of the Jordan River. Participants rated the cultural significance of the river on a scale from 1 to 5, where 1 indicated the lowest significance and 5 the highest. Awareness was assessed by asking participants whether they were familiar with the river; responses were categorized as either "aware (1)" or "not aware (2)". These dependent variables (cultural significance and awareness) were then analysed in relation to the demographic categories as independent variables. To quantify and compare perceptions across demographic groups, the mean values for cultural significance and awareness were calculated for each demographic category.

- Research Question 2: To what extent do cultural significance and conservation efforts intersect in the Lower Jordan River Basin?

The survey sought to gather information about the extent of participation of the respondents in the conservation efforts as well as the extent to which they perceive it as influencing the river's cultural significance. The participation of conservation efforts responses ranged from non-participation (coded by 2) to active participation (coded by 1). Then, the extent of the conservation activities on the cultural impact of the river was rated on a scale of 1 to 5 where 1 is the lowest impact and 5 is the highest. To assess the relationship between conservation involvement and cultural significance based on the public opinion, the mean scores for the conservation acts participation (Yes/No) and impact reported by respondents (1-5) were then compare and analysed.

- Research Question 3: What is the effect of Political boundaries on the cultural significance of the Lower Jordan River Basin?

To evaluate the impact of political factors on the perceived importance of the Jordan River, participants were asked whether they believed elements such as wars, borders, and laws influence the river's significance. Responses were recorded as "Yes" (coded as 1) or "No" (coded as 2). The mean values of responses were then calculated for each demographic category to identify variations in perceptions across groups.

To achieve the study's objective, the mean values from the three research questions were compared to assess their impact on the river's cultural significance, providing insights grounded in public opinion specifically to each demographic group.

Results

Table 2 presents the key findings of the mean values derived from the survey responses collected from diverse demographic groups within the Lower Jordan River Basin. The results address the three research questions.

Table 2. Mean Values, Factors of comparison, and Demographic Groups (By Author)

RQs	Factors of Comparison	A	B	C	D	E	F	G
	Numbers of Participants	288	10	4	4	44	2	16
RQ1	Cultural Significance of the River (1 to 5)	3.67	4.80	4.00	3.50	3.64	3.00	4.13
	Cultural Awareness (Yes 1/No 2)	1.40	1.00	1.50	2.00	1.18	1.30	1.30
RQ2	Involvement in Conservation Efforts (Yes 1/No 2)	1.84	2.00	2.00	2.00	1.86	2.00	1.37
	Impact of Conservation Involvement on Cultural Significance (1 to 5)	3.36	4.40	4.50	3.50	3.55	2.00	4.00
RQ3	Impact of Politics on Cultural Significance (Yes 1/ No 2)	1.03	1.00	1.00	1.00	1.04	1.00	1.50

• Cultural Significance and Awareness (RQ1)

Jordanians (Christians) and Israeli Jews rated the river's cultural significance highest, reflecting their strong religious and historical ties. In contrast, Palestinians, regardless of passport status, gave moderate ratings, likely due to restricted access and geopolitical constraints. Cultural awareness followed similar patterns, with Jordanians (Christians) reporting the highest awareness and Palestinians, particularly those in Palestine or with Israeli passports, showing lower levels due to political restrictions.

• Conservation Efforts and Cultural Significance (RQ2)

Israeli Jews demonstrated the highest participation in conservation efforts, likely due to better institutional support. Moderate involvement was observed among Jordanians (Muslims) and Palestinians with Israeli passports, while Palestinians with Palestinian passports faced significant barriers. Higher conservation involvement correlated positively with recognizing the cultural value of the river, particularly among Jordanians (Christians). However, groups with lower engagement reported weaker links between conservation and cultural significance.

• Impact of Politics on Cultural significance (RQ3)

Most groups agreed that political boundaries strongly influence cultural perceptions and hinder engagement with the river. Jordanians (both Muslims and Christians) and Palestinians with Palestinian passports consistently highlighted these limitations. Israeli Jewish responses were more divided, reflecting diverse political perspectives within the group.

1. Discussion and Conclusion

This research adds new insights by assessing the present meaning of the Lower Jordan River's cultural importance, in relation to preservation and politics. This study adopts a practice-based approach regarding the cultural meaning of the river, and how perceptions are shaped by the boundaries of various colonial policies and the extent to which conservation policies are shaped by past colonial norms. The research contributes to the understanding of transboundary rivers in

conflict-affected regions by analyzing the Jordan River which is conceived as both a bridge as well as a barrier. While answering these relevant questions, this research intends to enhance scholarly information as well as the means of fostering joint management of the environment and the sanctity of culture in one of the world's most contentious and ecologically rich areas.

The demographic distribution in the survey aligns with the existing population structure of the Lower Jordan River Basin, rather than presenting a research limitation. The region is predominantly located within Jordan, where 69.3% of the population are Jordanians and 97.2% are Muslims. Given this demographic reality, variations in response rates between majority and minority groups are expected and naturally shape the cultural values reflected in the findings.

While some claims are based on responses from smaller demographic groups (2–3% of the sample), their significance extends beyond numerical representation. The cultural and historical context of these minority perspectives must be acknowledged, as their views contribute to a deeper understanding of the river's significance. Rather than dismissing these responses as statistically insignificant, their inclusion highlights the need for a qualitative interpretation that accounts for historical narratives, sociopolitical influences, and environmental factors. By situating these findings within a broader analytical framework, the study ensures that even minority perspectives contribute meaningfully to the discourse on cultural identity and place attachment in the region. This finding highlights the need to explore other factors shaping the cultural significance of the river beyond demographics.

The findings of this study align with existing literature, highlighting the interconnected dynamics of cultural significance, conservation efforts, and political boundaries. Jordanians (Christians) and Israeli Jews, who rated the river's cultural significance highly, demonstrated stronger cultural awareness and involvement in conservation. This supports Peppard (2013) assertion that cultural and religious ties can amplify the perceived value of ecological landmarks, offering a foundation for targeted conservation initiatives.

The lower awareness and participation among Palestinians reflect the geopolitical constraints that limit access to the river, consistent with observations by (Awwad 2020). These findings emphasize the divisive role of political boundaries, which not only restrict physical access but also hinder cross-border cooperation, as noted in previous studies on the region's ecological and cultural tensions (Conca and Dabelko, 2018).

The contemporary challenges in the Lower Jordan River Basin underscore the intricate relationship between political conflicts and environmental sustainability. The disparity in water access between Israel and Palestine remains a major source of contention, reinforcing existing power asymmetries and limiting Palestinian development. While agreements like the Oslo Accords and the Joint Water Committee offer frameworks for cooperation, implementation remains hindered by political disputes and infrastructural limitations. On the other hand, Jordan and Israel have demonstrated a functional, albeit strained, model of water-sharing, yet concerns about water quality and emergency allocations continue to strain diplomatic relations. Beyond politics, climate change plays a critical role in shaping the basin's future, as rising temperatures, reduced precipitation, and increasing water demand threaten its ecological stability. These factors highlight the urgent need for adaptive water governance strategies that not only address political disputes but also incorporate climate resilience and equitable resource distribution.

The results showed a clear link between cultural identity and conservation participation, particularly among Jordanians (Christians), aligns with (Shang et al. 2012), who argue that tailoring conservation strategies to reflect local cultural values enhances engagement. To address disparities, future efforts must adopt a holistic approach integrating cultural preservation with ecological sustainability, transcending political divisions to foster regional collaboration.

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