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Procedural Environmental Justice in Xinjiang's Tarim Basin: An Argument for the Applicability of the Environmental Justice Framework in Non-Western Contexts

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**Procedural Environmental Justice in
Xinjiang's Tarim Basin:
An Argument for the Applicability of the Environmental Justice
Framework in Non-Western Contexts**

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Abstract

Procedural environmental justice is mostly studied using the framework provided by the Aarhus Convention. However, both the concept and the framework are of Western origin, which has generated resistance when it comes to applying it to non-Western contexts. Such is the case of China, where scholars and authorities ascribe environmental injustice to the urban/rural and east/west divides, rather than ethnic and race factors. Many of them thus argue that environmental justice, and its derived concepts, are not applicable to the Chinese context, as they are intrinsically linked to race. The present thesis contends that the applicability of the PEJ model in China can be ensured by incorporating the element of recognition into it. Following this theory, the author develops an improved, four-pillar PEJ model and tests it by applying it to the case of the Tarim Basin Uyghurs. This model adjusts the three original PEJ pillars established in the Aarhus Convention (access to relevant environmental information, participation in environmental decisionmaking, and review procedures to challenge environmental government decisions) to the Chinese context. The application of each of these pillars is accompanied by a comparison of the Convention text and the relevant Chinese legislation to demonstrate a converging trend between the two. A new, fourth pillar is also applied, focused on authority recognition of inequality. The application of the four-pillar model highlights the existence of a gap between the literature and the thesis findings, which highlights the value of using a model that is more sensitive to ethnic factors in non-Western contexts.

Keywords

Procedural environmental justice; China; Xinjiang; Uyghurs; information disclosure; public participation; public interest litigation; Aarhus Convention; recognition of injustice

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Acronyms

ACEF	All-China Environmental Foundation
CINIC	China Internet Network Information Center
CJO	China Judgements Online
CPC	Communist Party of China
EECD	Ecological Environmental Damage Compensation
EIA	Environmental Impact Assessment
EID	Environmental Information Disclosure
ENGO	Environmental Non-Governmental Organization
EPIL	Environmental Public Interest Litigation
MEE	Ministry of Ecology and Environment of the PRC
NPC	National People's Congress
PEI	Procedural Environmental Injustice
PEJ	Procedural Environmental Justice
PIL	Public Interest Litigation
PKULaw	Peking University Legal Database
PRC	People's Republic of China
XEED	Xinjiang Ecological Environment Department
XTRBA	Xinjiang Tarim River Basin Authority
XUAR	Xinjiang Uyghur Autonomous Region
XWRD	Xinjiang Water Resources Department

1. Introduction

The concept of Environmental Justice emerged during the US Civil Rights Movement. It referred to inequality in the distribution of negative impacts of environmental degradation and policy. Newer publications build on the original distributive understanding by adding a procedural dimension, focused on representation and participation of vulnerable populations in environmental policymaking. This dimension has been formalized in the Aarhus Convention, which is widely used to study and ensure procedural environmental justice (PEJ). However, most literature on the topic focuses on Europe and the US, and assessments of PEJ in developing regions, especially those where political context limits public participation, are scarce. In China, in particular, these conditions are further compounded by a choice by scholars and authorities to focus on geographical and rural/urban divides to address environmental justice, and the subsequent lack of recognition of ethnicity-based procedural environmental injustice (PEI). They also question the applicability of the concept of PEJ to the Chinese context due to its Western origin.

The present thesis proposes an improved PEJ model composed by an adapted version of the three original Aarhus Convention pillars and a new, fourth pillar focused on recognition, and aims to prove the applicability of the model to the Chinese context by testing it on the case of^o the Tarim Basin Uyghurs, as they are located in the rural west of China, and environmental issues in the region are greatly overlooked in favor of the securitization approach to ethnic minorities preferred by the government. The analysis focuses on water pollution and scarcity in the Tarim Basin, where rivers are greatly degraded and often dry despite being the main water source for all activity in the area. Thus, the research question tackled is the following: *is the proposed PEJ model applicable to the case of the Tarim Basin Uyghurs?*

To answer this question, we first apply the adapted Aarhus pillars to the case study: firstly, access to environmental information is evaluated by applying content analysis to reports from national and regional government institutions. The second pillar is public participation in environmental policymaking. We assess invited participation spaces by looking at Uyghur representation in key policymaking bodies, and created spaces through content analysis of NGO yearly activity reports. Thirdly, environmental public interest litigation cases from two prominent legal databases are reviewed to determine whether Uyghurs have access to review procedures to challenge government decisions. Each of these sections is complemented by a comparison of the Aarhus Convention and relevant Chinese legislation to assess their compatibility, also a prerequisite for applicability. Lastly, to evaluate the new, fourth pillar, the content analysis data from previous sections is used to assess whether ethnicity-based PEI detected in the previous section is recognized by Chinese authorities.

The elaboration of an improved model that allows for successful application of a PEJ framework to non-Western contexts would encourage greater research on the subject in these regions, which is much less abundant than in relation to the US or Europe. Furthermore, it would allow for more accurate detection and measurement of the phenomenon of PEJ, which traditionally affects marginalized populations, as it would be able to better assess when ethnicity is an underlying factor of PEI even in contexts where no such factors are recognized by authorities. This new interpretation of a traditional PEJ model would translate into more exact research and could be taken into consideration in environmental policymaking as well, in order to better address detected PEI.

2. Literature Review

The concept ‘environmental justice’ appeared during the US Civil Rights Movement, referring to the equal distribution of environmental impacts, linked to protests regarding the location of waste facilities in poorer, African American communities. Although the original focus of the concept was distributional, the research question focuses on the newer procedural dimension, which calls for fairness in the development, implementation, and enforcement of environmental laws, regulations, and policies.

PEJ has been increasingly emphasized both on its own and as a means for promoting distributive environmental justice (Schlosberg, 2007; Sze et al., 2009). It is widely defined as requiring access to environmental information, public participation in environmental decisionmaking, and judicial review of government environmental action, the three pillars of the Aarhus Convention for fairer environmental decisionmaking (UNECE, 1998), originally developed in principle 10 of the Rio Declaration (UNCED, 1992). These pillars have provided a framework for the overwhelming majority of academic PEJ work.

2.1. Access to Environmental Information

Since the inception of the US Toxic Release Inventory in the mid-80s, environmental information disclosure (EID) programs have been instituted worldwide. To date, the relevant literature focuses on the aggregate effect of disclosure programs and the mechanisms by which disclosure leads to improved environmental quality. Examples include Tietenberg (1998) or Cohen and Santhakumar (2007). Few attempts have been made to examine the disclosure systems themselves beyond the

US context, with the exception of implementation assessments of the Aarhus Convention, which places information disclosure obligations on public authorities, in pursuit of PEJ. Mason (2010) focuses on Convention requirements in terms of availability, assessing whether the amount of information provided by authorities is enough. Ryall (2015) highlights the role of NGOs in ensuring the accuracy of the disclosed material by acting as alternative sources of information. A third aspect, largely absent from the literature, is accessibility of information for minorities. It is, however, included in multiple national strategies for the implementation of the Convention published by party states. For example, the Serbian Ministry of Environment (2011) emphasizes that information must also be made accessible to minority stakeholders by using languages and channels that they can access.

Although these three trends are also visible in literature on EID in China, it focuses on the “Open Government Information” measures, which require Government institutions to publish regular reports and answer civilian requests for information. According to Wang (2018), these new measures position China at the intersection between state and civilian interests, as they help the Government maintain stability, but generate tensions between authoritarian governance and the bottom-up notions of accountability and autonomy that underpin information disclosure.

2.2. Public Participation in Environmental Decisionmaking

According to the US Environmental Protection Agency, public participation implies that all communities that could be affected by an environmental law, regulation, or policy are heard during the development phase. This link between PEJ and policymaking is also emphasized in the Aarhus Convention, and reflected in the relevant literature. According to Steele (2001), public participation should use mechanisms such as Environmental Impact Assessment (EIA), which aim

to advance environmental protection. The Convention establishes an obligation to carry out EIA procedures, which are used to assess the implementation of the second Convention pillar by authors such as Hartley and Wood (2005). However, there are not many studies on states where public participation frameworks are less developed. In the case of China, some EIA assessments do exist (see, for example, Johnson, 2020), but again they mostly focus on government use of EIA to maintain stability and secure long-term legitimacy, rather than improve environmental quality. To this end, authorities allow more dialogue than in other areas of policy, including increased NGOs and social movement involvement. According to Balme (2018), such dialogue has relocated manufacturing plants and halted the construction of dams and nuclear waste processing facilities. Nonetheless, Simms (2012) maintains that the system faces important limitations in terms of implementation and of restrictions faced by individuals and NGOs, and recognizes the importance of ethnic diversity among environmental policymakers to alleviate biases that hinder the achievement of environmental justice.

Further research, such as that carried out by the Stockholm Environment Institute (2019), highlights the difference between participation via invited spaces, established by authorities, and created spaces, developed by civilian mobilization. EIA and representation in policymaking bodies are invited spaces. However, civil society groups have long sought alternative channels of participation when dissatisfied with available invited spaces. Authors such as Toth (2010) argue that, due to the special rights the Aarhus Convention affords to NGOs, they constitute a valuable tool for making public opinion known whenever invited participation spaces are insufficient. However, the literature on direct citizen mobilization is much broader. For example, Heydon (2020), and Yenneti and Day (2015) use the Aarhus framework to examine instances of PEI in the UK, and India, respectively. They underline how mobilization aims to compensate for a lack of

system-sanctioned channels to express concerns, indicating that this is a phenomenon that spans the East-West gap in terms of the application of the PEJ framework. Similarly, regarding China, Baranovitch (2019) describes Uyghur protests against nuclear tests carried out in Xinjiang in 1980, and Nyima and Yeh (2016) chronicle Tibetan protests, in collaboration with NGOs, against mining on sacred mountains.

2.3. Judicial Review of Government Environmental Actions

In the last decades, courtroom involvement in environmental protection has developed into a distinctive body of law known as Environmental Public Interest Litigation (EPIL). It concerns cases in which claimants have not suffered a loss themselves, instead claiming compensation from the government or businesses in the name of public interest. Pertinent literature mainly assesses the shortcomings of existing EPIL systems in terms of their effectiveness in environmental protection. Faure and Raja (2010) examine EPIL cases in India and conclude that the Supreme Court successfully promotes environmental quality where the legislative and executive branches fail. Less attention is paid to whether all members of the public have access to EPIL, especially since its formalization as a body of law. Rajamani (2007) raises concerns regarding access to EPIL in the very same Supreme Court of India. He underlines that, although EPIL is, in theory, accessible to all, the poor, the illiterate, and ethnic minorities are often alienated.

EPIL was formally introduced into China in 2014. It was established that Environmental Non-Governmental Organizations (ENGOS), local governments, and procuratorates can bring cases to courts in response to environmental violations of the public interest. Relevant literature generally focuses on NGOs, underlining how, despite weaknesses in areas such as case selection and

litigation risk assessment, but their actions are testing and expanding the limitations of the current EPIL system. Examples include Xie and Xu (2022) and Zhuang and Wolf (2021).

2.4. PEJ in China: The Issue of Recognition

Recognition has been linked to PEJ by authors such as Peters (2015), who argues that policymakers have been unable to accommodate minority groups in the environmental policy process based on their absence in the relevant legislation. Tsosie (2007) takes a second approach, measuring the level of accommodation of US indigenous minorities based on recognition of environmental self-determination rights. The Chinese case holds particular interest in terms of recognition, as many scholars, such as Jian (2005), argue that the concepts of Environmental Justice and PEJ are deeply rooted in US history, and that environmental injustices cannot be attributed to ethnicity in China because the population is homogenously distributed. Instead, they emphasize urban-rural or east-west distributional injustice (Zuo et al., 2017), sometimes paired with occupational or intergenerational divides (Quan, 2002; Mah & Wang, 2017). If ethnic minorities are addressed, it is usually within the framework of the urban-rural divide, as these minorities are most present in China's rural west (Balme, 2011; Liu, 2012). Quan (2002), echoes these arguments in relation to Uyghurs and PEJ. Nonetheless, even when using the urban/rural divide, Baranovitch (2019) concludes that there are links between environmental issues and ethnic unrest, arguing that Uyghurs blame Han settlers and the Chinese government for environmental degradation.

3. Theoretical Framework: Developing a PEJ Model

The Aarhus Convention is often lauded as unique in terms of integrating human rights and environmental protection. It is intrinsically linked to PEJ, as it has helped define and operationalize its components, and therefore reflects the central concerns of most PEJ accounts. The above literature review highlights how the applicability of the concept of PEJ to the Chinese context is under dispute, despite prior use of various of its components to assess cases from the Asian giant. The present thesis argues that misgivings regarding applicability can be overcome by including recognition as a fourth pillar of PEJ and adapting the three existing Aarhus pillars. This section presents a model based on this argument (Table 1), developed by the author, with examples from the UK Aarhus Implementation Report (ECOSOC, 2021).

The first pillar, *access to environmental information*, aims to ensure the transparency necessary to exercise the second and third pillar rights. It is set out in articles 4 and 5, according to which authorities must, in a timely manner, disclose environmental information both proactively and on request. For example, the UK incorporated these obligations by establishing an online open data service and tools to assist in its usage. The Cabinet Office also publishes regular reports on the performance of the government in terms of access to information under its 2004 Environmental Information Regulations. Fugui et al. (2008) divide environmental information into three groups depending on its source: governmental information, enterprise information, and other forms of information, provided by NGOs and the media. The predominance of state-owned enterprises and media outlets in China allows us to focus on government and NGO information disclosure.

Articles 6 to 8 address the second pillar of the convention, *public participation in environmental decisionmaking*. In order to ensure participation of all affected parties, it requires party states to

carry out EIA for a long list of policies, laws, and regulations. In the case of the UK, local authorities are required to establish timely EIA consultation processes before most environmental projects. However, due to the limited nature of current EIA structures in China, the model will focus on representation in traditional policymaking bodies, where most of the relevant decisions are made. The Convention favors implementation at local levels, but, given the high level of power centralization that characterizes China's political system, the model will also address the central level. This section of the Convention also recognizes the possibility of participating via NGOs, but it does not mention the possibility of influencing policy via protests and other alternative methods, which is widely included in the literature. In the case of China, the presence of protests is particularly telling, given the repression often faced by ethnic minority mobilization. Therefore, they are also included in the model.

The third pillar of the model calls for *access to judicial review of government environmental actions*. Through article 9, the Convention enforces both prior pillars in domestic legal systems and strengthens enforcement of domestic environmental law. In the UK, an Information Commissioner enforces pertinent legislation and examines complaints from members of the public. In China, there are not many documented cases of individuals using such procedures. However, NGOs and people's procuratorates do engage in EPIL (Liu, 2020). Therefore, a complete response to the research question requires determining whether these existing cases involve Uyghurs, as well as to what extent they are successful.

This concludes all the dimensions presented in the Aarhus Convention. A brief examination of the Convention text shows that the obligations it sets out are very general in nature, and parties are given a lot of leeway for their implementation. This helps member states agree on the content of

the convention more easily, but it can also hinder its effectiveness in many ways, one of which is a lack of recognition of existing PEJ. As such, the proposed model includes recognition, i.e., the acknowledgment of the fact that a group is experiencing PEI based on a group-defining characteristic, as a fourth pillar of PEJ. For our case study, recognition is understood as authority acknowledgement that Uyghurs face increased environmental burdens vis-à-vis the Han majority. However, the literature review above has shown that, according to Chinese scholars, environmental injustice in China is not linked to ethnicity, but to the urban/rural divide. Without recognition of ethnicity-based PEI, the implementation of measures to address these injustices becomes virtually impossible. Examining whether this lack of recognition exists is necessary to determine if it is the cause behind the perception of the Western, race-based PEJ model as not applicable to the Chinese case.

<i>Procedural Environmental Justice</i>							
Pillar I		Pillar II			Pillar III	Pillar IV	
Access to relevant environmental information		Participation in environmental policymaking			Access to judicial review of government environmental action	Recognition of affected population*	
		Invited spaces		Created spaces			
Governmental Information**	NGO Information**	Representation in policymaking organs			EPIL	By authorities*	By scholars*
		Local level	Central level*	NGO activity			

Table 1: Procedural Environmental Justice Assessment Model. Own elaboration.

* Not present in the Aarhus Convention

** From Fugui et al. (2008)

4. Research Design

4.1. Case Study Selection

Given that the research question aims to address PEJ in non-Western contexts, the reasons for focusing on China are twofold: firstly, most studies of PEJ have analyzed cases in regions with democratic regimes, where limitations imposed on participation and ethnic mobilization were very limited compared to China. Secondly, China is the world's most polluting state, but it is also increasingly involved in global efforts to address environmental issues. Thus, its approach to the environment holds international relevance.

Xinjiang is more conducive to the aim of this research project than other areas in China that also face distributive injustices. It is (a) mainly inhabited by minorities perceived as potentially problematic by the government, (b) rich in natural resources that hold value for the government, and (c) located in China's rural west, where environmental issues are greater. The analysis of the region will focus on water pollution and scarcity in the Tarim Basin, which comprises about 1.02 million km² of the south of Xinjiang. The river has suffered severe degradation over the last few decades, with multiple stretches ceasing to carry water during months every year (Figure 1). The river is the major water source for all kinds of human activities and natural ecosystems of the Basin (Thevs, 2011). Thus, the allocation and conservation of its water resources is crucial. The environmental interest of the case is even greater given the apparent lack of mobilization despite the limited results of the abundant water management and water transfer policies implemented in the area during the last few years.

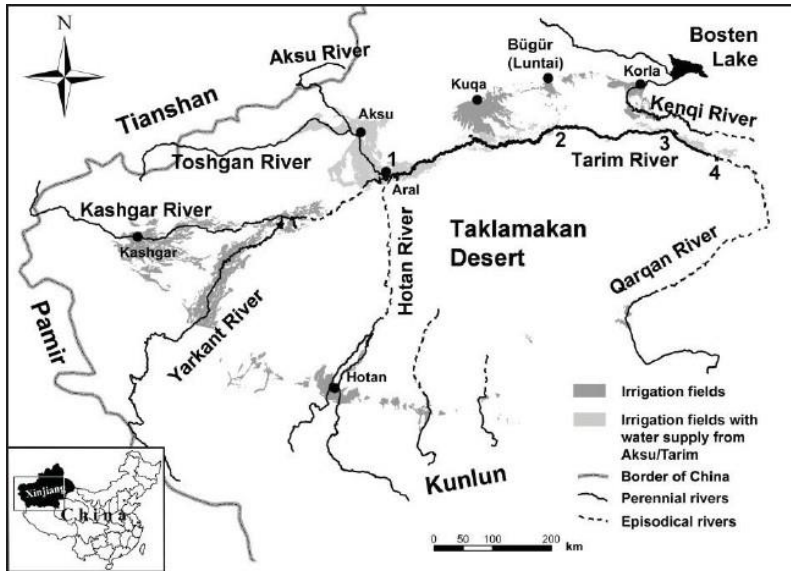


Figure 1: Map of the Tarim Basin (Thevs, 2011)

4.2. Data Collection and Analysis

The data used to assess each element of the proposed model will be retrieved from primary sources when possible, mainly from local and national-level government institutions of the People's Republic of China (PRC). Given the limitations in data access faced by scholars when addressing sensitive Chinese topics such as ethnic minorities, and the impossibility to carry out interviews and observations, secondary sources, mainly reports by NGOs, will be used to complete the data and ensure its validity and reliability. The following paragraphs outline data collection and analysis for each of the sections of the proposed PEJ model, followed by the criteria to deem each section of the model applicable in the Chinese context.

To assess *access to relevant environmental information*, we must determine what environmental information the government publishes, whether it reflects actual environmental conditions, and if Uyghurs can access it. The first two questions will be addressed via content analysis of documents at two levels. The main state-level source of information on environmental issues and policies in

China is the *Report on the State of the Ecology and Environment in China*, published yearly by the Ministry of Ecology and Environment (MEE). It is representative of the central level as a whole, as it is constructed from reports provided by all the other ministries. It is complemented by the most recent CPC Five-Year Plans and available white papers related to Xinjiang and the environment. At this level, we will note the frequency of direct and indirect mentions of Xinjiang, Uyghurs, and the Tarim Basin and, in relation to these, mentions of water quality, water scarcity, and other linked terms.

At the regional level, the Xinjiang Ecological Environment Department (XEED) publishes the yearly *Report on the State of Environment in Xinjiang*. The Xinjiang Water Resources Department (XWRD) has published a bulletin some years but now provides daily data on key rivers and reservoirs via the Hydrology Daily section on their website. The Xinjiang Tarim Basin River Authority (XTBRA) periodically publishes the results of initiatives such as the River Chief System and the Watershed Lookout Project. At this level, positive and negative mentions of water quality, water scarcity, and other linked terms will be noted. Using this data, we will aim to uncover injustice-breeding patterns, as well as comparing it to NGO reports to determine whether it reflects actual environmental conditions. Lastly, accessibility will be measured using internet access rates in Xinjiang, available via the China Internet Network Information Center (CINIC), and by noting in which languages the documents reviewed are available.

Measuring *public participation in environmental policymaking*, the second aspect of the model, is more complex. As the legal framework for public participation in China is recent and policymaking still falls almost exclusively to central and regional authorities, Uyghur participation in policymaking will be assessed by examining the current composition of key policymaking bodies

at the national and regional levels to determine whether Uyghurs in general, and Tarim Basin Uyghurs in particular, are underrepresented. The national level will include the National People's Congress (NPC) in general, its Environment Protection and Resources Committee in particular, and the Central Committee of the CPC. The regional level will include the Xinjiang Uyghur Autonomous Region (XUAR) Government heads, the Standing Committee of the People's Congress of Xinjiang, and the Provincial Standing Committee of the CPC. The data on the members of these bodies will be obtained from the websites of the NPC and the Xinjiang Regional Government, as well as from the official resumés published by the PRC state-run press agency (Xinhua News Agency).

This section will also assess participation in policymaking via alternative channels, namely NGO projects and environmental protests. This will be assessed via content analysis of the yearly reports from a combination of global (Green Peace East Asia), local (Green Xinjiang), and pioneering national (Friends of Nature, Green Home, Green Camel Bell) ENGOs, selected based on the China Development Fund and All-China Environmental Foundation (ACEF) NGO directories. We will take note of mentions of Xinjiang, Uyghurs, and the Tarim Basin in these documents in order to determine the amount of water quality and water supply-related projects NGOs participate in, as a proxy for how present these NGOs are in the region and possible reasons behind their engagement, or lack thereof, with the Uyghur communities of Xinjiang. Data on environmental protests in Xinjiang is harder to obtain. Nonetheless, academic accounts of suppression of the right to protest environmental problems do exist, and should be assessed considering that the presence of protests despite government repression indicates higher importance placed on the corresponding environmental issues.

Regarding the third section of the table, *access to judicial review of government environmental action*, the analysis will aim to measure whether the current state of EPIL in Xinjiang is sufficient to consider that Uyghurs have access to review procedures as stipulated in the Aarhus Convention. We will first examine the reports on EPIL published by ACEF and the ENGO Friends of Nature, which has been engaging in EPIL longer than any other Chinese NGO, to determine how many cases relate to environmental issues in Xinjiang or the Tarim Basin. This section also includes an analysis of the number of cases linked to Xinjiang and the Tarim Basin in the China Judgements Online and PKULaw databases. Neither of these is a complete database of all court judgements in China, but the combination of an official government database (CJO) and an academic database (PKULaw) should help limit resulting bias. Furthermore, this study uses a combination of search and filter functions to detect as many relevant cases as possible, using relevant keywords such as Public Interest Litigation (*gongyi susong*), Ecological Environmental Damage Compensation or

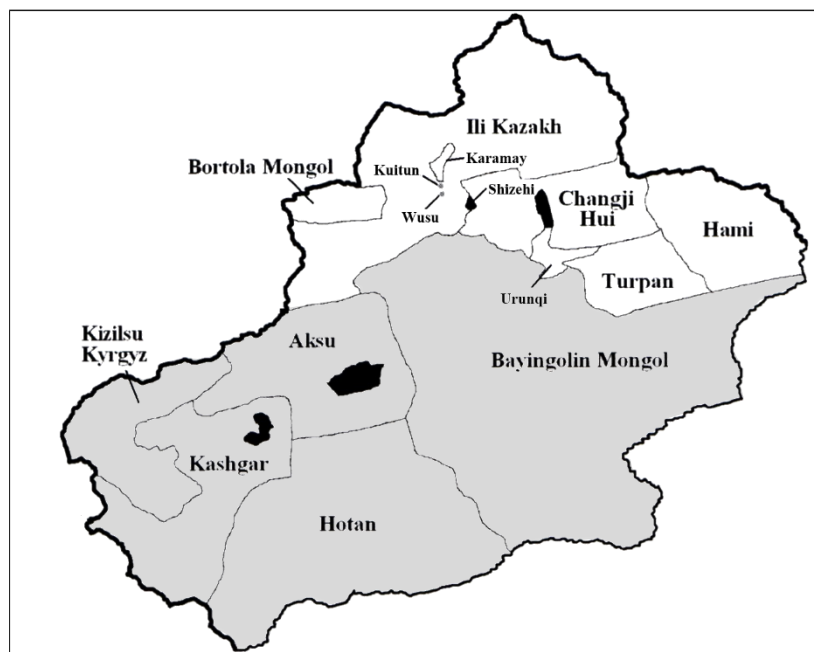


Figure 2: Prefectures of the Xinjiang Uyghur Autonomous Region. The gray color indicates the extension of the Tarim Basin. Own elaboration based on original image from Harlan, 2009.

EECD (*shengtai huanjing sunhai peichang*), environmental protection (*huanjing baohu*) and so on. Lastly, case selection will be limited to cases from the courts of the prefectures located in the Tarim Basin (Figure 2). The cases found will be reviewed in terms of the applicant, whether it was admitted by the court, whether it was successful in obtaining compensation, and whether the case was linked to water supply or water quality.

After reviewing the data for each section, the key PRC regulations for each of the three PEJ pillars of the Aarhus Convention (Table 2) will be contrasted with the corresponding regulations in the Convention, to determine whether, as some Chinese scholars argue, the difference between the two is such that the PEJ model should be considered extraneous to the Chinese context. It will be considered applicable if the obligations established by the Convention and by Chinese authorities, and the rationale behind them, are compatible or, at least, on a converging trend.

<i>Aarhus Convention</i>	<i>Corresponding PRC legislation</i>
Access to relevant environmental information	Open Government Regulations of the PRC
Participation in environmental policymaking	Environmental Impact Assessment Law
	Measures for Public Participation in Environmental Protection
	Measures for Public Participation in Environmental Impact Assessment
Access to judicial review of government environmental actions	Environmental Protection Law of the PRC

Table 2: Key Chinese legislation corresponding to each PEJ pillar of the Aarhus Convention

Lastly, the PEJ model developed here includes an additional, non-Aarhus-based section: *authority recognition of ethnicity-based injustice*, a determining factor for the usefulness of this Western, ethnicity-based framework in a Chinese context. To determine whether such recognition exists, this section will examine the key Chinese PEJ legislation (Table 2), and the government reports examined in previous sections. Note will be taken of the number of mentions of ethnic minorities in general, and Uyghurs specifically, throughout the texts, as well as of the urban/rural divide traditionally used by Chinese authorities. The analysis will be carried out against the backdrop of US Executive Order 12898, the main guideline for PEJ measures in the USA, where the environmental justice concept was first developed and the ethnic basis of PEJ is widely acknowledged.

5. Pillar I: Access to Relevant Environmental Information

The first pillar of the Aarhus Convention, and of the proposed model, establishes that authorities must, in a timely manner, disclose environmental information both proactively and on request. Since the mid-2000s, China has adopted a range of measures for EID, creating a US Freedom of Information Act-Style disclosure system. Public pressure has encouraged Chinese authorities to issue guidelines and amend environmental legislation to emphasize EID at local and state level, enabling the public to identify environmental violations and call for solutions. Nonetheless, a review of Chinese EID reports (Tables 3 and 4) highlights accuracy, availability, and accessibility issues that generate ethnicity-based PEI.

Firstly, central-level publications mainly provide information on water in Xinjiang and Tarim via indirect mentions, within data from larger regions where these areas are included, such as “northwest China”. This leads to inaccuracies and allows environmental issues to be easily

downplayed. Comparing central and regional-level reports also indicates issues in data accuracy, as illustrated by the differences in the data on water quality provided in the 2013 reports by the MEE and the XEED (Appendix I). Furthermore, MEE reports focus on water quality and barely mention water scarcity, whereas NGOs present the latter as much more urgent: organizations from China Water Risk (Feng, 2017) to the World Resources Institute (Wang et al, 2016) warn that almost 40% of the Basin faces extremely high water stress.

	<i>Documents with positive mentions</i>		<i>Documents with negative mentions</i>		<i>Total documents</i>
	<i>Indirect</i>	<i>Direct</i>	<i>Indirect</i>	<i>Direct</i>	
<i>MEE reports</i>	19	6	16	9	24
<i>FYPs</i>	0	3	1	0	5
<i>White papers</i>	6	5	0	0	19
<i>Total mentions</i>	25	14	17	9	48

Table 3: Number of national-level documents that include positive or negative mentions of the environment in Xinjiang, the Tarim Basin or Uyghurs, divided into direct and indirect mentions.

	<i>Water quality mentions</i>				<i>Water scarcity mentions</i>				<i>Total documents</i>
	<i>pos</i>	<i>med</i>	<i>neg</i>	\emptyset	<i>pos</i>	<i>med</i>	<i>neg</i>	\emptyset	
<i>XEED reports</i>	5	10	1	3	4	1	0	14	19
<i>XWRD reports</i>	3	1	0	0	3	1	0	0	4
<i>XTRBA publications</i>	2	3	0	1	2	1	0	3	6
<i>Total mentions</i>	10	14	1	4	9	3	0	17	29

Table 4: Number of regional-level documents that include mentions of water quality or water scarcity in the Tarim Basin, divided into positive, intermediate, and negative mentions, as well as a column for documents lacking any mentions at all.

Regionally published information shows a second source of injustice: the reports published by the XEED focus heavily on urban areas. This is a source of injustice, as Uyghurs are concentrated in rural areas, namely the Kizilisu, Aksu, Kashgar, and Hotan prefectures in the West of the Tarim Basin (Figure 3), and therefore have less environmental information available than predominantly Han areas such as Urumqi.

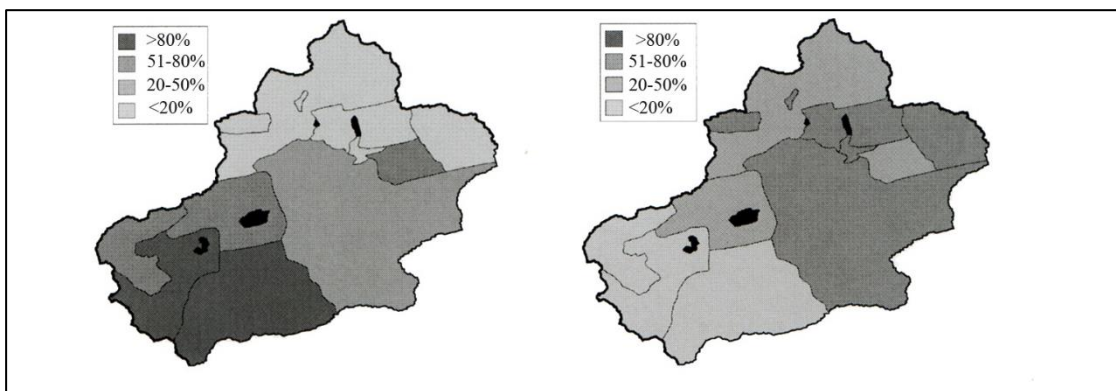


Figure 3: Percentage of Uyghur (left) and Han (right) population by prefecture (Harlan, 2009)

Lastly, the third potential source of injustice is accessibility. The data provided by state and regional authorities is mostly published on their official websites. The option to request information from any of these institutions is also accessed online. However, according to CINIC (2021), only 50.3% of Xinjiang inhabitants have internet access, as opposed to the national rate of 70%. They also face periodic government internet cutoffs. Moreover, environmental data and data request mechanisms are mostly only available in Chinese at regional levels and in Chinese and English at national levels. Although more Uyghurs speak Mandarin now than ever before, there are still many who speak only Uyghur or an Uyghur-Mandarin pinyin, and therefore cannot understand the information provided, especially in the Tarim Basin, where education in Uyghur is

much more common (Toops, 2004). Uyghurs also have limited access to English, as it is mostly taught through Mandarin (Dwyer, 2005).

Overall, Chinese authorities have taken steps towards proactive and on demand information disclosure. However, certain limitations in terms of accuracy, availability, and accessibility remain that can result in PEI for Uyghur minorities, as they limit their ability to participate in environmental decisionmaking. Nonetheless, these steps are not dissimilar to the obligations established in Aarhus. Although the Convention underlines the protection of the right to an adequate environment as its aim, whereas the Open Government Regulations of the PRC state information disclosure “serves the public's production and livelihood and their economic and social activities” (Art. 1), this does not necessarily imply incompatibility between the two. Via a recent UN Human Rights Council (2021) resolution, China recognizes the right to a clean and healthy environment. Furthermore, the conditions that justify non-disclosure are, in both cases, based on national security, legitimate economic interests, and protection of third-party interests (Appendix II). Given that the rationales are not incompatible and the requirements for non-disclosure coincide to a large extent, there seems to be no immediate issue with the application of this section of the model to the Chinese context. In fact, the result of its application coincides with the conclusion that Chinese authorities themselves have reached: the MEE (2015) reported that the existing environmental disclosure system is plagued by issues such as incomplete information, lack of transparency, and difficulty of access.

6. Pillar II: Participation in Environmental Policymaking

The main obligation set out in the second pillar of the Aarhus Convention, which corresponds to the second section of the proposed model, is to carry out EIA consultation processes. In China, a rough legislation framework has developed over the last few years, based on the 2003 EIA Law, and the 2015 Measures for Public Participation in Environmental Protection and 2019 Measures for Public Participation in EIA, published by the MEE. Nonetheless, the reality is still far even from what this basic framework describes. EIA was developed as a top-down administrative instrument, with no preconceived notion that the public should be involved. Thus, invited spaces for public participation are very limited, and policymaking still falls almost exclusively to central and regional authorities. Therefore, when applying this section of the model to China, it is more realistic to assess Uyghur participation in environmental policymaking based on their presence in traditional policymaking bodies at the central and regional levels (Table 5) and use of created spaces to influence the policymaking process, namely via NGOs and protests in the region.

	<i>Uyghurs (%)</i>	<i>Of those, Uyghurs originating from the Tarim Basin (%)</i>
<i>XUAR Total</i>	47.2%	80%
<i>NPC</i>	39.64%	50%
<i>NPC Environment Committee</i>	0%	N/A
<i>CPC Central Committee</i>	0%	N/A
<i>XUAR Government</i>	30.77%	50%
<i>Standing Committee of the People's Congress of Xinjiang</i>	40%	50%
<i>Xinjiang Standing Committee of the CPC</i>	26.67%	75%

Table 5: Summary of Uyghur representation percentages in the bodies assessed. Own elaboration.

6.1. Presence in Policymaking Organs

At the central level, the NPC is the highest state organ. Its Standing Committee adopts and interprets most national legislation, including environmental laws. The NPC has 2,987 members, of which 61 represent the XUAR. According to the XUAR Statistic Bureau (2020), Uyghurs represent 47.2% of the population of the region. However, only 19 of 61 Xinjiang representatives in the NPC (39.34%) are of Uyghur origin. Therefore, Uyghurs are underrepresented in the NPC. Furthermore, half of these representatives hail from the Tarim Basin, whereas the other half are from north Xinjiang. Since about 80% of Uyghurs live in the Tarim Basin (Dillon, 2004), they are also underrepresented in this sense.

The NPC also includes an Environment Protection and Resources Conservation Committee that studies environmental topics and drafts and presents relevant policy proposals. However, despite the abundance of environmental issues faced in Xinjiang, none of the 24 current Committee members hail from this region, or are ethnically Uyghur. The limited presence of the Uyghur in the main national policymaking organ is also echoed in the Communist Party of China (CPC) itself, whose Central Committee is composed entirely of Han Chinese from central and coastal China.

At the local level, 4 of the 13 heads of the XUAR Government are of Uyghur origin, two from the Tarim Basin and two from the region's north. When pitted against the previously mentioned percentages (Table 5), this again implies an underrepresentation of Uyghurs in general and of Tarim Basin Uyghurs in particular. The same happens in the Standing Committee of the People's Congress of Xinjiang: out of ten members, two are Tarim Basin Uyghurs and two are Uyghurs from other areas of Xinjiang. Lastly, in the Xinjiang Provincial Standing Committee of the CPC,

only four out of 15 members are ethnically Uyghur. Nonetheless, three of them hail from the Tarim region, thus more accurately representing the territorial distribution of Uyghurs.

Overall, direct participation of Tarim Basin Uyghurs is characterized by (a) largely limited public participation mechanisms, leaving policymaking in the hands of traditional, Beijing-appointed policymaking bodies, and (b) systematic underrepresentation of Uyghurs in general, and Tarim Basin Uyghurs in particular, in said bodies. The limited nature of existing EIA programs conflicts with the obligations established in the second Aarhus pillar of the model. However, these are not the only ways that policy can be influenced.

6.2. Created Spaces for Public Participation

Given the lack of invited spaces for public participation, it is not surprising that China is experiencing dynamic environmentalism in created spaces, despite existing constraints under the current political system. Environmental NGOs now number in the thousands, and engage in environmental education, public interest litigation, and lobbying and policy advocacy. However, not all Chinese citizens enjoy equal access to them. The following analysis of reports from national and international ENGOs shows similar sources of PEI as those highlighted in relation to Uyghur presence in policy-making organisms.

In general, ENGOs made little to no reference to Xinjiang, Uyghurs, or the Tarim Basin in their yearly reports. Regarding international NGOs, Greenpeace East Asia focused its activity in Hong Kong, where its headquarters are located, aiming to avoid the censorship faced in mainland China. Xinjiang is among the areas where said censorship is strongest, which implies that ENGOs would face significant obstacles in developing projects involving Xinjiang or its population.

Similarly, national-level ENGO activity focused on the province where they were founded. Of the national NGOs assessed, only Green Camel Bell, most active in Gansu province, directly east of the XUAR, made any explicit references to Xinjiang, indicating in their 2005 report that their website was available there and that they sought to improve their capabilities in said region by establishing a cooperation system with the Xinjiang Conservation Fund, a local ENGO. According to the NGO directories consulted, local Xinjiang ENGOs are very rare. The Xinjiang Conservation Fund, now known as Green Xinjiang or Xinjiang Shanshui, is one of the few regional ENGOs to be approved by the Xinjiang Civil Affairs Department. Its annual reports echo the same issues detected in national and international ENGOs: they included no explicit mentions of Uyghurs or minorities in general, or of the Tarim Basin. Although water-related projects were present, they were all located in regions such as Altai or Turpan, in north Xinjiang, outside the Tarim Basin.

From these reports, it can be inferred that there are less NGO projects related to water pollution and scarcity in the Tarim Basin than in other regions. It is worth noting that many reports did describe water quality and water protection projects and manuals that could inspire similar action in Xinjiang, such as Green Camel Bell's Gansu Water Project. Nonetheless, the current lack of NGO activity in the region greatly restricts Uyghur participation in policymaking via this alternative strategy. This is compounded by similar issues to those underlined regarding the access to information section: the few ENGOs in Xinjiang are located in urban areas, whereas Uyghurs are concentrated in rural areas, and the information on ENGO projects is provided online and mostly in Chinese or in English, limiting Uyghur access. Furthermore, civil society attempts to influence government decisions and official behaviors have reached only moderate success, largely by adopting a non-oppositional stance towards the government (Tang & Zhan, 2008),

which would hardly be compatible with supporting the position of Uyghurs over that of government officials.

Chinese authorities also restrict Uyghur mobilization due to existing ethnic tensions, making it difficult not only to register new ENGOs in Xinjiang, but also for Uyghurs in the region to engage in environmental protests. Nowadays, any sort of Uyghur activism tends to be interpreted as linked to separatism or terrorism, and therefore as a threat for national security. Baranovitch (2018) compares the current situation with the 1980 Uyghur anti-nuclear protests and concludes that there is good reason to believe that Uyghurs would have launched environmental protests similar to those held increasingly often in other areas of China, if they could.

Thus, applying the second pillar of the proposed model shows that both invited and created spaces for public participation are limited: the legal framework for EIA required by the Aarhus Convention is still in development, leaving policymaking to traditional bodies where Uyghurs are systematically underrepresented. Alternative participation avenues, namely NGO policy advocacy or environmental protests are virtually nonexistent in the region due to the political context in which NGOs operate and the securitization of any sort of Uyghur mobilization. Some would argue that the absence of avenues for participation might indicate that the concept of PEJ is ill-suited to the Chinese context. However, since the EIA Law was enacted in 2003, additional measures have been periodically passed, providing increasing safeguards for the right to public participation in environmental issues. These regulations are slowly aligning the Chinese case with the Aarhus Convention (Appendix III), in part thanks to the work of the MEE, which has adopted the promotion of societal and public participation in environmental protection efforts as one of its

mandates. If these trends continue, the proposed model will not only be applicable to the Chinese case, it will become a valuable tool to analyze the changes currently taking place in China.

7. Pillar III: Judicial Review of Government Environmental Actions

Recent reforms of the Chinese legal system have allowed for increased judicial review of government action, on which the third pillar of the model focuses. Within the Aarhus framework, this materializes in the shape of EPIL, which is also on the rise in China. According to the website of the PRC Supreme Court (2021), in 2020, 3,557 EPIL cases were reviewed nationwide, up 72.2% year-on-year. EPIL cases are still relatively new within Chinese Environmental Law. They are only accepted since the 2014 reform of the Environmental Protection Law, which allows ENGOs, procuratorates, and local governments to lodge them. However, the latter was only formalized with the 2018 EECD system, so cases brought by local governments so far number less than 50 nationwide (Xie & Xu, 2022). Furthermore, as the previous section indicates, Uyghurs are systematically underrepresented in government bodies, so that local government actions cannot be considered to originate from this ethnic group. Therefore, this section focuses on the data obtained for NGOs and Procuratorates, who are also closer to the organisms recognized as responsible for bringing EPIL cases in the Aarhus Convention, and, therefore, the proposed PEJ model.

7.1. Environmental NGOs

EPIL holds interest for ENGOs because it allows them to act without having to take a confrontational stand against the government. Registered ENGOs have been able to bring civil EPIL since 2014, as long as they have not committed unlawful activities in at least five years. However, they are far from the group that brings the most cases: only 2.9% of the EPIL cases

brought in 2020 were lodged by NGOs. Furthermore, the lack of NGO presence in Xinjiang detected in section 6 translates into an overall lack of EPIL cases related to the region. The ACEF has published 42 EPIL reports. However, not one mentions Xinjiang, much less the Uyghurs or the Tarim Basin. These topics are also absent from the more than 80 EPIL briefings published by Friends of Nature, the first ENGO to be founded in China, which fulfills all the conditions to engage in EPIL. Their records include reference to only one EPIL case in Xinjiang, on contamination in the Gurbantünggüt Desert, located in Altay prefecture, in the part of the region furthest from the Tarim Basin.

The absence of ENGO EPIL linked to Xinjiang can be ascribed to the overall challenges faced by NGOs engaging in EPIL: lack of the necessary legal competence to engage in cases without external lawyers, the need to avoid institutional risks, prohibitive litigation costs, or lack of familiarity with the relevant environmental aspects (Liu, 2020). These challenges are compounded by previously mentioned limitations to NGO activity specific to Xinjiang and the Tarim Basin: NGO projects are few, usually located in the north of the province or in the capital, whereas Uyghurs are concentrated in the rural south. Information on NGO activity is mostly available online and in Chinese, shutting out the large percentage of Uyghurs with limited internet access or who speak Uyghur rather than Mandarin. Lastly, regional Xinjiang NGOs must take care to not be perceived as ethnic mobilization, risking being shut down in the current securitized context of Xinjiang, effectively limiting their ability to use even semi-sanctioned paths to challenge government decisions. Thus, the obligation to ensure access to EPIL required by the Aarhus Convention is not fulfilled, giving way to PEI.

7.2. People's Procuratorates

Shortly after NGOs began engaging in EPIL, procuratorates were tasked with, upon detection of environmental damage, asking relevant authorities or NGOs to bring civil EPIL. However, if these bodies are unable or unwilling to do so, the procuratorate itself may lodge the case. Procuratorates filed 3,454 (97.1%) out of the 3,557 EPIL cases brought in 2020. The abundance of cases filed by procuratorates in comparison to NGOs reflects how often the latter are unable to bring EPIL cases.

The CJO database houses 18 public interest litigation (PIL) cases brought by procuratorates in Tarim Basin prefectures: five from Aksu Prefecture (three at prefecture level, one from Kuche City Court and one from Awati County Court), ten from Kashgar Prefecture (nine at prefecture level and one from Shule County Court), two from Kizilisu Kyrgyz Autonomous Prefecture (one at prefecture level and one from Wuqia County Court), and one from Luntai County Court, in Bayingolin Mongol Autonomous Prefecture. None of these cases had water pollution, water scarcity, or desertification as its main environmental issue. Only three EECD cases were found, linked to the northern Xinjiang prefectures. No cases linked to EECD were listed for the prefectures in the south. Furthermore, all 18 cases were filed against individuals or businesses, rather than government authorities.

Similarly, a review of the PKULaw database revealed a total of 406 PIL cases since the year 2000. However, only 2 of the PIL cases were linked to Xinjiang, of which one was non-environmental and one was related to pollution in the north of Xinjiang, rather than the Tarim Basin. PKULaw also held information on over 2,000 cases linked to environmental protection, of which only 75 were from Xinjiang and the overwhelming majority of these was related to Urumqi and other main urban nuclei, where Han Chinese are concentrated.

Overall, the databases show that very few EPIL cases are brought in Xinjiang, especially given that the region faces greater environmental issues than East China, where most of the EPIL cases stem from. This could indicate reluctance of Xinjiang procuratorates to position themselves against government authorities, but it is more likely that this is a result of the selection of cases to litigate. The last annual report of the Supreme People's Procuratorate (2020) indicates that, in 2019, the procuratorate handled almost 70,000 cases related to ecological and environmental protection nationwide, of which only about 2,000 made it to court, and only mentions that the rest of the cases were solved in 'pre-litigation procedures'. Similarly, at the local level, the Aksu People's Procuratorate (2021), for example, indicates that a total of 594 EPIL cases were filed across the region in 2020, of which only 3 reached the litigation stage.

In summary, evaluating the state of EPIL in Xinjiang using the proposed model allows for two conclusions. Firstly, the platform does theoretically provide Tarim Basin Uyghurs with access to justice as stipulated in the Aarhus Convention. In the last few years, filed EPIL cases have greatly increased, and the Chinese government continues to actively promote its expansion. However, the platform appears to have seen limited use in Xinjiang, and it is unclear why. Possible causes include the novelty of the system, a lack of information provided on filed cases or, most likely, increased perception of risk stemming from taking action that can be perceived as contrary to the government given the political context, which makes NGOs unwilling to take on EPIL cases. According to the proposed model, a limited EPIL platform is another source of PEI for Tarim Basin Uyghurs.

The second conclusion derived from examining EPIL in China is its compatibility with the Aarhus Convention and the proposed PEJ model. According to article 9, the Convention requires access to

a channel through which it is possible to request a legal review procedure. Article 58 of the PRC's Environmental Protection Law establishes this by outlining the conditions under which action may be instituted in a people's court in response to violations of public interest related to the environment. Article 9 of the Convention also allows for preliminary review procedures, so the Chinese tendency to solve over 90% of cases in pre-litigation procedures is not incompatible with the Convention. Furthermore, it establishes that the obligations it sets out are to be fulfilled within the framework of party national legislation, which provides additional leeway for the Chinese system to be considered in compliance. Given that, in theory, the Chinese EPIL system already falls within the outline set by the Aarhus Convention, and that the Chinese Government is encouraging increasing engagement with the system as it continues to tweak its regulations, the proposed PEJ model is not only applicable to the Chinese case, but also a valuable framework to analyze the evolution and implementation of this new system.

8. Pillar IV: Recognition of Ethnicity-Based Injustice by Chinese Authorities

So far, we have determined that Uyghurs face procedural environmental injustice in the three pillars of the proposed model adapted from the Aarhus Convention, and that Chinese regulations for these three aspects either establish similar obligations as the Convention or are on a converging trend toward it. However, even if the application of the three Aarhus pillars indicates the existence of PEI, as it does here, these injustices cannot be addressed if authorities do not recognize their existence. This section contends that the Chinese non-applicability argument is based on the lack of recognition of ethnicity-based environmental injustice, which should therefore be added to the PEJ model as a fourth pillar, in order to adapt the concept to the Chinese context, thus resulting in the proposed model.

In the US, the use of Executive Order 12898 as the main guidelines for PEJ measures implies recognition of the link between ethnicity and environmental injustices, as it focuses on minority and low-income populations. Federal Agencies are tasked with identifying and addressing “disproportionately high (...) environmental effects of its programs, policies, and activities on minority populations” (section 1-101), which includes promoting the enforcement of environmental statutes, ensuring greater public participation, improving related research and data collection, and identifying patterns of natural resource consumption (section 1-103), all in relation to said minorities.

In comparison, Chinese legislation includes very few explicit mentions of the environmental justice needs of specific groups, but rather tends to structure both regulations and data collection and publication around the urban/rural divide. Regarding access to relevant environmental information, the PRC Open Government Regulations do not include any mentions to race or ethnicity. Article 21 provides that authorities will disclose government information “based on specific local conditions”, but then goes on to focus on condition differences between cities and rural areas. This is echoed in the reports examined in section 5, which indicate the existence of a clear divide between urban and rural areas. For example, the yearly MEE reports have separate sections for urban and rural data, and the reports published by the XEED focus mostly on urban issues, referring to water in rural areas only in the context of its use for agriculture.

Similarly, regarding participation in environmental policymaking, we find a complete absence of any terms related to race or ethnicity in the 2002 EIA Law and in the 2015 and 2019 Measures for Public Participation. Nonetheless, we know from examining its yearly reports that the MEE has adopted the urban/rural divide as a key element of its main functions. Furthermore, previous

research has found that the Hukou System, used in the PRC for household registration, has a history of distinguishing between urban and rural citizens and generating institutional constraints when it comes to the public participation of the latter (Chen, Lu & Xu, 2015).

As for access to judicial review of government environmental decisions, the PRC Environmental Protection Law also lacks references to ethnic minorities, stating only that autonomous regions may develop local environmental standards beyond national ones if they so wish. However, it repeatedly references the urban/rural dichotomy, highlighting the existence of different development and environmental protection plans for each. The 2015 Administrative Litigation Law, which provides the basis for most EPIL cases, does recognize the right of ethnic minorities to “use their ethnic language and script to conduct administrative litigation”, but as we have seen in previous sections, this is not implemented. We have also noted the overall dearth of ethnic-minority-related EPIL cases in official databases.

Thus, not only do Uyghurs face injustice in all three PEJ pillars, authorities do not recognize these injustices. There is therefore a noticeable gap between these findings and the previously assessed literature. This discrepancy highlights the need to include the recognition dimension in PEJ models applied to China: even if the application of the three adapted Aarhus pillars indicates the existence of PEJ, as is the case here, these injustices cannot be addressed if authorities do not recognize their existence. The ethnic element should not be dismissed based solely on the argument of the homogeneity of the Chinese population, especially in regions such as Xinjiang, which is heterogeneous in that ethnic minorities constitute over half of its population and are grouped in specific territories.

9. Conclusion: Applicability of the PEJ Framework to the Chinese Case

Many Chinese scholars argue that the environmental justice framework is not applicable to the Chinese context, based on the Western origin of the concept and the argument that China's population is homogeneously distributed, so that existing differences should be attributed to the East/West and Urban/Rural divides. The present thesis has aimed to take a first step towards proving that a PEJ framework adapted from the Aarhus Convention is not only applicable to the Chinese context, but a useful tool to follow the evolution of Chinese environmental policy. To this end, it has tackled the research question *is the proposed PEJ model applicable to the case of the Tarim Basin Uyghurs?*

By applying an adapted version of the three-pillar Aarhus Convention framework to China, the thesis has determined that the Uyghur ethnic minority in the Tarim Basin faces PEI. Their access to environmental information is limited in terms of availability, accuracy, and accessibility. Their participation in environmental policymaking is restricted because policymaking falls to government bodies where they are systematically underrepresented and alternative channels such as NGO projects or environmental protests are rare in the region due to the securitization of existing ethnic unrest. Although a platform to request judicial review of environmental decisions does exist, there is a marked absence of EPIL cases brought in Xinjiang courts, especially cases against government institutions, again probably due to the need to avoid being perceived as contrary to the government given the political context.

Regarding the Western origin of the concept, the present thesis has highlighted the similarities between the obligations and rationale of the Aarhus Convention and those of the corresponding Chinese legislation, and has further noted that recent changes in Chinese legislation are bringing

it closer to the standard set by the Convention. Furthermore, Aarhus gives signing parties abundant leeway to implement its articles within the framework of their national legislation, therefore simplifying the application of an Aarhus-based framework to non-Western contexts. Thus, the first three sections of the model can be considered applicable to China.

Regarding the choice of divide on which to focus, a key contribution of the proposed PEJ model is the addition of a fourth pillar: recognition of existing PEI by Chinese authorities. A further examination of the documents and data used to assess the first three Aarhus pillars shows that any PEJ action taken by Chinese authorities is based on the urban/rural and east/west divides, indicating that there is effectively no recognition by authorities of the ethnicity-based PEI that the present thesis has found to exist. As expected, by applying the new model, the findings regarding PEJ in China change from those currently predominant in the literature, which highlights the need to include the recognition dimension in PEJ models used when applying the concept to the Chinese context. Thus, the proposed PEJ model allows for more accurate research on PEJ in non-Western contexts.

Therefore, the response to the research question is that the proposed PEJ model is applicable to, and useful for, the case of the Tarim Basin Uyghurs. Future research should complement this assessment by applying it to other ethnic minorities in China and other non-Western states. The Tibetan minority would be an interesting starting point, as they share with Xinjiang that they are concentrated in an autonomous region in the rural West of China, where minorities outnumber the Han, and they are also perceived as an issue of security by the Chinese government. However, it differs from the case of the Uyghur in that the Central Tibetan Administration and other Tibetan organizations have contributed to increased use of alternative channels to influence the

policymaking process. These groups also represent Tibetan interests in the West, bringing them nearer to the geographical origin of the environmental justice framework and the Aarhus Convention, as well as to actors that have been known to exert pressure to solve environmental issues.

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Appendices

Appendix I – Comparison of Freshwater Quality Data Provided by the Ministry of Ecology and Environment and the Xinjiang Ecological Environmental Department in their 2013 Reports

	<i>MEE Report data on northwestern China</i>	<i>MEE Report data on Xinjiang</i>	<i>XEED Report data</i>
<i>Rivers with water quality at grade III or higher</i>	98%	97.8%	91%
<i>Rivers with water quality between grades IV and V</i>	0%	0%	0%
<i>Rivers with water quality below grade V</i>	2%	2.2%	9%

Water quality grades are based on temperature, PH, and presence of particular sediments and toxic substances, all of which determine the purpose of use of the water. Water above grade III can be used for drinking and enjoys a certain level of protection. Grade IV and grade V water is generally used for industrial or agricultural activity. Water below grade V is considered unusable. More detailed information is available in Environmental Quality Standard GB3838-2002, developed by the MEE. The full text is available (in Chinese) on [the MEE website](#).

A further example of disclosure of inaccurate information based on this water quality scale: although MEE reports state that water quality in northwest China is good, accompanying river maps that are color-coded according to this scale indicate that the Kezi river, an affluent of the Tarim River, consistently hovers around grade IV.

Appendix II – Reasons for Denying Environmental Information Disclosure

Chinese Legislation used in this Section:

- 2019 Open Government Regulations of the PRC, available online [here](#) (unofficial English translation).

	<i>Aarhus Convention (Art. 1.4)</i>	<i>Open Government Regulations of the PRC</i>
<i>Reasons related to government confidentiality and national security</i>	<p>(a) The confidentiality of the proceedings of public authorities, where such confidentiality is provided for under national law;</p> <p>(b) International relations, national defense, or public security;</p>	Art. 14: Government information that is lawfully designated as state secrets, government information that laws and regulations prohibit disclosure of, as well as government information that might endanger national security, public safety, economic security, or social stability after release, is not to be disclosed.
<i>Reasons related to third party interests or legitimate economic interests</i>	(c) The course of justice, the ability of a person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal or disciplinary nature;	Art. 15: Administrative organs must not disclose government information involving commercial secrets or personal privacy, for which disclosure would cause harm to the lawful rights and interests of third parties.
	(d) The confidentiality of commercial and industrial information, where such confidentiality is protected by law in order to protect a legitimate economic interest.	
	(e) Intellectual property rights;	
	(f) The confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the	

	information to the public, where such confidentiality is provided for in national law;	
	(g) The interests of a third party which has supplied the information requested without that party; being under or capable of being put under a legal obligation to do so, and where that party does not consent to the release of the material	
<i>Other Reasons</i>	(h) The environment to which the information relates, such as the breeding sites of rare species.	Art. 16: Information on matters internal to administrative organs, including personnel management, logistics management, internal work processes, and information in other such areas, may be not disclosed.

Appendix III – Chinese Regulations incorporating Key Aarhus Convention Obligations for Public Participation

Chinese legislation used in this section:

- 2002 Environmental Impact Assessment Law. Available online [here](#) (in English).
- 2015 Measures for Public Participation in Environmental Protection. Available online [here](#) (in Chinese).
- 2019 Measures for Public Participation in Environmental Impact Assessment. Available online [here](#) (in Chinese).

A review of the table below shows two main differences. Firstly, that Chinese legislation establishes repeatedly that these obligations may not take place if the state provides that the information in question is to be kept confidential (see: 2002 EIA Law, art. 11; 2015 Measures, art. 19; 2019 Measures, art. 2). Nonetheless, this is still compatible with the Aarhus Convention, as article 6.1c states that “Each party [...] may decide, on a case-by-case basis if so provided under national law, not to apply the provisions of this article to proposed activities serving national defense purposes”, which is the main reason given by Chinese authorities when choosing not to disclose specific information, as seen in section 5 of the present thesis. Secondly, the obligations derived from the measures published by the MEE appear to be less strict than those listed in the Aarhus Convention. However, the MEE measures are not only explicitly said to be binding, but both state in art. 1 that their aim is to protect the rights of citizens to obtain environmental information and participate in and supervise economic protection, so that the rationale for establishing these measures is essentially the same as that of the Aarhus Convention.

<p align="center"><i>Aarhus Convention</i> (art. 6 - 8)</p>	<p align="center"><i>2002 Environmental Impact Assessment Law of the PRC</i></p>	<p align="center"><i>2015 Measures for Public Participation in Environmental Protection of the MEE</i></p>	<p align="center"><i>2019 Measures for Public Participation in Environmental Impact Assessment of the MEE</i></p>
<p>Inform the public of the content of the decision, the public authority responsible, the implementation timeline, the authorities to which opinions and requests for information can be submitted, and whether the decision is national or transnational in nature. This information should be provided by the competent public authorities when requested, free of charge and as soon as it is available, where so required under national law.</p>	<p>Art. 10: the environmental impact report shall include an analysis, prediction, and appraisal of potential environmental impacts of the decision, and possible countermeasures to predict or mitigate them.</p>	<p>Art. 5: the competent environmental protection department shall publish, for each decision process, information on the project and regarding when and how public opinions may be submitted, as well as contact information for the relevant department.</p>	<p>Art. 8 – 10, 22, and 23: information related to public participation in the environmental impact assessment of construction projects shall be disclosed in accordance with the 2002 EIA Law. This includes information on the project itself and its environmental impacts and on how and where to submit public opinions. State secrets, commercial secrets, and personal information shall not be disclosed.</p>
<p>Allow the public to submit, in writing or at a public hearing or inquiry, any comment, information, analyses, or opinions that it considers relevant to the proposed activity.</p>	<p>Art. 11: if a program directly involves their environmental interests, the corresponding authority shall seek the opinion of [...] the general public [via] meetings, hearings, or by any</p>	<p>Art. 4: Citizens, legal persons and other organizations may submit their opinions and suggestions to the competent environmental protection</p>	<p>Art. 9: During the preparation of the draft environmental impact report, the public can submit comments related to the environmental impact assessment to the construction unit. Art. 14: if there are many doubts from the public regarding the environmental impact of a project,</p>

	other means, unless the State provides that the issue should remain confidential.	department through telephone, letter, fax, internet, etc.	additional forms of public participation shall be organized in order to address these concerns, in the shape of public forums, hearings, or expert demonstrations.
Promptly inform the public once the decision is made and if any changes or updates are added.	<p>Art. 21: once approved, the report will be published, with explanations regarding why the opinions presented by relevant entities, experts, and the general public have been accepted or rejected.</p> <p>Art. 24: If the nature, scale, techniques, or environmental compensation measures of a project undergo changes after the EIA process, a new EIA report must be submitted for examination and approval.</p>	<p>Art. 9: the competent department of environmental protection shall review opinions and suggestions put forward by citizens, give full consideration to them when making environmental decisions, and give feedback</p>	<p>Art. 27: The competent department of ecological environment shall, within 7 working days from the date of making the decision to approve the environmental impact report of a construction project, announce the full text of the approval decision to the public</p>

Appendix IV – Full text of Article 58, Chapter V, of the 2014 Revised Environmental Protection Law of the People's Republic of China

Article 58:

For an act polluting environment or causing ecological damage in violation of public interest, a social organization which satisfies the following conditions may institute an action in a people's court:

(1) It has been legally registered with the civil affairs department of the people's government at or above the level of a districted city.

(2) It has specially engaged in environmental protection for the public good for five consecutive years or more without any recorded violation of law.

A people's court shall, according to the law, accept an action instituted by a social organization that satisfies the provision of the preceding paragraph.

A social organization may not seek any economic benefit from an action instituted by it.

