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Letter from the Editors

Dedicated to furthering the study and understanding of the international system, the Martin Institute has been committed to granting students the academic opportunities and environment necessary for a fulfilling and enriching education since its establishment in 1979. Through the Martin Institute, students are offered a variety of experiences to gain direct experience and personal knowledge, which includes the ability to participate in the National Model United Nations Conference in New York City, and the chance to explore regional non-governmental organizations in Seattle, Boise, and Portland. Alongside these experiences, and many other experiential learning opportunities, students participate in seminars and focused courses relevant to their interests and regional emphases to generate discussion and thought that leaves a long-lasting impression to carry on into future careers and studies.

Continuing for the fifteenth year, the Martin Institute offers graduating seniors the opportunity to have their Capstone White Papers published, alongside selected policy papers submitted by the participants in the Martin Scholar Research Program. This journal is a culmination of these students' hard work and dedication to an array of different topics surrounding multilateral cooperation, policy, development, and the diverse variety of problems the international community faces. Published scholars should be proud of the quality research and thoroughness of the papers they have completed, with the dedication and effort evident in their writing.

As editors of this year's edition, we were tasked with reviewing the submitted policy and white papers. Through the review of these papers, we discovered a wide array of unique and well-rounded topics that properly stress the importance of understanding the impact of relevant issues and finding solutions for addressing it effectively. Therefore, while some of these topics covered may not be well-known or publicized, we hope that through reading these papers, the prevalence and importance of addressing these issues will be recognized, even if they may not make international headlines.

Milana DesRosier. Co-editor

Brenna Rostron, Co-editor

BunaKertien

It now becomes necessary for us to put our major global problems into a socially relevant global framework.

Our world has become too complex, too interdependent, to answer these questions by simplistic answers.

These problems call for creative thinking...

Boyd A. Martin, founder of the Martin Institute at the Institute's inauguration, 1980



2023 Journal of the Martin Institute International Studies

Table of Contents

- **6** Addressing China's International Fishing Practices

 Taylor James
- **14** Solutions to Critical Mineral Demand as Europe Transitions to Low-Carbon Energy Yvette Bonney
- 22 The Sinking Megacity: Land Subsidence and Flooding in Jakarta
 Matty Murphy, Martin Scholar
- 34 Mitigating Consequences Emerging from Polar Ice and Permafrost Melt for Arctic Indigenous Peoples
 Rachel Hawley
- **40** On Improving European Union Policies Towards Humanitarian Crises
 Rachel Feldman
- **46** Protecting Matera, Italy from Over-tourism Shae Mills
- **52** Improving Access to London's Council Housing
 Kai SedImayer, Martin Scholar
- **62** Combatting Statelessness Among Dominicans of Haitian Descent in the Dominican Republic

 Andrea Brannock
- **68** International Regulation and Standardization of Private Military and Security Companies

Seth Siple

74 2023 Lewis Award for Outstanding Position Paper Writing



Addressing China's International Fishing Practices

Taylor James

ABSTRACT

As the largest contributor to the global fishing industry, and a major supplier of fish to not only to its domestic population, but to the rest of the world as well, where and how China fishes matters. Unfortunately, due to many Chinese fishing vessels engaging in illegal fishing activities, fishing disputes with China have increased in recent years. This issue has only been exacerbated by the unsustainable fishing practices utilized by China, which has put pressure on fish stocks worldwide. To holistically address this issue, it will need to be approached from both the domestic and international level. By assessing the various ways in which this problem can be addressed, including strengthening enforcement of international law, as well as examining ways to reduce China's overall fleet capacity, it is recommended that a regional fishery management organization (RFMO) established within the South China Sea, in addition to strengthening the already existing institutions of established RFMOs.

INTRODUCTION AND OVERVIEW

China is the world's number one producer of fish. With a fishing fleet that is estimated to be around 564,000 ships, far outnumbering any other nation, China alone accounts for 15% of the global marine capture fishing¹ industry.² To supply the growing demand for fish, China has in recent years looked beyond its own Exclusive Economic Zone (EEZ), which is severely depleted due to overfishing, and has instead been increasingly engaging in distant

[&]quot;Capture fishing" refers to fish that are harvested from marine or freshwater environments, and not produced through alternative means such as aquaculture.

² Food and Agriculture Organization. 2022. "The State of World Fisheries and Aquaculture 2022." Total Fisheries and Aquaculture Production.

water fishing efforts on the High Seas.³ While the High Seas are open for the utilization of all states, there have been incidents of Chinese fishing vessels engaging in disreputable and even illegal fishing activities, such as fishing along or within the EEZs of other countries.⁴

The repercussions of this behavior have jeopardized not only China's diplomatic relations with other countries but also the livelihoods of other fishermen. An example of this can be seen in the Galapagos, where the increased presence of Chinese vessels outside of Ecuador's EEZ has put pressure on the ocean's ecosystems and made it harder for Ecuadorian fishermen to keep up. Disputes over fishing have even become violent, with Argentina's officials sinking a Chinese fishing vessel in 2016 after the boat was discovered to be fishing illegally within Argentina's EEZ.5 While there are regulations in place meant to help ensure the peaceful utilization of ocean resources, regulations are vague and sporadically enforced.

At present, policy regarding fishing on the High Seas is guided by the 1982 United Nations Convention on the Law of the Sea (UNCLOS), which establishes the parameters for EEZs as well as basic regulations to prevent overfishing.⁶ Although members of the Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ) were able to reach a historic agreement in March of 2023 that expands upon UNCLOS to better protect marine biodiversity,⁷ governance of the High Seas is still severely hindered by widespread illegal, unreported, and unregulated fishing, known as IUU fishing.⁸ China has been the

primary perpetrator of IUU fishing, and despite domestic efforts to combat illegal fishing abroad⁹ Chinese fishing vessels are frequently accused of severe human rights abuses, in addition to violating international sustainability principles.¹⁰

According to the Food and Agriculture Organization (FAO) 35.4% of all fish stocks are unsustainable,11 with regions such as the South China Sea fairing far worse at 70-95%.12 When China fishes unsustainably, it not only jeopardizes the health of the ocean, but also the livelihoods of the three billion people who depend upon marine and coastal biodiversity. Additionally, over 200 million people are employed by marine fisheries globally,13 and even more rely on fish as a vital food source.14 Therefore, China's fishing practices are not only a diplomatic concern, but also a threat to environmental health and human prosperity. By addressing China's international fishing practices, both China and the international community can ensure that the global fishing industry is a peaceful, and sustainable one.

SOLUTIONS

Approach 1: Addressing China's Fishing Practices at the Domestic Level

1A. Improving Aquaculture Efforts

Fish are an important food source for many people, and China in particular has accounted for 36% of all aquatic foods consumed in 2019. To supply the ever-growing demand for seafood, even as global fish stocks decrease, China has been utilizing aquaculture more and more. The National Ocean and Atmospheric

- 4 Higgins-Bloom
- 5 Fu, Claire, Steven L. Myers, and Derek Watkins. 2022. "How China Targets the Global Fish Supply." The New York Times.
- 6 International Maritime Organization. n.d. "United Nations Convention on the Law of the Sea." International Maritime Organization.
- 7 United Nations. 2023. "UN delegates reach historic agreement on protecting marine biodiversity in international waters." UN News.
- 8 Higgins-Bloom

- 9 Mallory, Tabitha. 2013. "China's Fisheries Management Policy." China's Fisheries Management Policy 33, no.2 (Summer - Fall): 85 - 91.
- 10 Fu
- 11 Food and Agriculture Organization
- 12 Runion
- 13 Convention on Biological Diversity. 2018. "People Depend on Marine and Coastal Biodiversity for their Livelihoods." Convention on Biological Diversity.
- 14 NOAA. 2023. "Why should we care about the ocean?" NOAA's National Ocean Service.
- 15 Food and Agriculture Organization

³ Higgins-Bloom, Kate. 2018. "Food Fight." Foreign Policy 230 (September).

Administration (NOAA) defines aquaculture as "the breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments." The purpose of aquaculture then is to take the pressure off ocean ecosystems by providing an alternate means for supplying seafood.¹⁶

In 2016, China was already the largest producer of aquaculture products globally, as it accounted for 61.5% of the total market. In order for the demand for fish to be met, though, 62% of all fish produced will need to come from aquaculture,17 and as the world's number one producer of fish, China will likely need to be a considerable portion of that market. However, increasing aquaculture production will need to be done with careful consideration of the environmental impact. When done without the proper forethought, aquaculture can damage habitats, contribute to water pollution and eutrophication, increase the risk of zoonotic disease, and contribute to greenhouse gas emissions.18 So, while an increase in aquaculture production on China's part will likely need to happen to keep up with demand and take pressure off capture fisheries, it will have to be carried out with caution.

1B. Establishing a Rights-Based System of Fishery Management

Part of what makes China's fishing fleet so formidable is that it has a high fleet capacity, meaning that it is very good at catching a lot of fish as efficiently as possible. Several factors contribute to fleet capacity, including the number and size of the vessels, how efficient those vessels are, as well as the time put in by fishermen. 19 China also utilizes large carrier ships that meet fishing vessels at sea, and transport their catch to land,

allowing fishermen to remain at sea year-round.²⁰ However, when fleet capacity exceeds fish stock capabilities fishing is no longer sustainable.²¹ If China is to meet its own sustainability goals, it will need to reduce its fleet capacity.

One of the ways to reduce fleet capacity is by establishing a rights-based fishery management system. Α rights-based management system establishes when, where, and how much an individual, fishing vessel, or company can fish. Rights-based fishery management prevents overfishing and allows for regulations to be modified as needed. 22 In areas where a rights-based system has been implemented, such as throughout the United States, they have seen longer fishing seasons. increased product quality, safer working conditions, as well as harvesting being more cost-efficient. When implemented properly then, rights-based fishery management can help ensure that fishing is conducted sustainably, without sacrificing economic prosperity.

1C. Reducing Fishing Subsidies

One of the greatest, and most harmful ways in which China supports its fleet's high capacity is through the usage of fishing subsidies, a majority of which are fuel subsidies. In 2013, China provided 6.5 billion dollars in fishing subsidies, making it the largest subsidizer of fishing operations globally.²³ These subsidies lead to a distortion in the market though, and make it appear as though the fishing industry is far more profitable than it is. In fact, in 2008 government subsidies given to the China National Fisheries Corporation equaled about half of the company's net profits for that

¹⁶ National Ocean and Atmospheric Administration. 2023. "What is Aquaculture?" NOAA's National Ocean Service.

¹⁷ Ahmed, Nesar, Shirley Thompson, and Marion Glaser. 2019. "Global Aquaculture Productivity. Environmental Sustainability, and Climate Change Adaptability." Environmental Management 63:159–172.

¹⁸ Ahmed

¹⁹ Smith, Courtland K., and Susan S. Hanna. 1990. "Measuring Fleet Capacity and Capacity Utilization." Canadian Science Publishing 47:2085 - 2091.

²⁰ Fu

²¹ Smith

²² World Wildlife Fund. n.d. "Rights Based Management: Conserving Fisheries. Protecting Economies." WWF Rights Management.

²³ Mallory, Tabitha G. 2016. "Fisheries subsidies in China: Quantitative and qualitative assessment of policy coherence and effectiveness." Marine Policy 68 (June): 74-82.

year. ²⁴ Additionally, research indicates that about 95% of these subsidies do not promote China's stated sustainability standards, and ultimately assist behavior that is harmful to the environment. ²⁵

Fortunately, China has already indicated a willingness to decrease its fleet's capacity by limiting fishing subsidies. In 2016, China began taking measures to reduce its fishing subsidies as it recognized how they contradicted sustainability goals. As such, Chinese policymakers sought to reform fuel subsidy policy as part of China's 13th Fiveyear Plan.²⁶ Additionally, organizations such as the WTO have been increasingly focusing on reducing fishing subsidies, which China will be expected to comply with in the future.²⁷ Ultimately, China can continue to reduce subsidies at the domestic level, and in doing so it will reduce its fleet's capacity.

1D. Modifying Fishing Moratoriums

In 1999, China implemented a fishing moratorium on areas within the Bohai Sea, the Yellow Sea, and the East China Sea, which effectively prohibits all fishing activities in these areas from May till August. The moratorium was implemented in an attempt to prevent overfishing and allow fish stocks time to recuperate.²⁸ However, it has been highly criticized, as many scientists noted that the restriction only applies to times when fish are already not abundant, thereby defeating the purpose of having such a moratorium.²⁹ Beyond China though, the South China Sea is also important for countries such as Vietnam

24 Mallory, Tabitha. 2013. "China's Fisheries

<u>Management Policy." China's Fisheries Management Policy</u> 33, no. 2 (Summer - Fall): 85 - 91.

- 25 Mallory. 2016.
- 26 Wang, Kaiwen, Matthew N. Reimer, and James E. Wilen. 2022. "Fisheries Subsidies Reform in China." Department of Agricultural & Resource Economics, University of California, Davis, (December).
- 27 Sumaila, U. R., Naazia Ebrahim, Anna Schuhbauer, Daniel Skerritt, Yang Li, Hong Sik Kim, Tabitha G. Mallory, Vicky W. Lam, and Daniel Pauly. 2019. "Updated estimates and analysis of global fisheries subsidies." Marine Policy 109 (November).
- 28 Maulaya, Mahbi. 2022. "The truth behind China's fishing ban in the South China Sea." Policy Forum.
- 29 Fu

and the Philippines, who have criticized the moratorium, stating that it violates their national sovereignty and territorial jurisdiction.³⁰ However, it is also crucial for the livelihoods of the 190 million people who reside along the coast of the South China Sea that fishing in these areas is actually sustainable.³¹

Therefore, it is within all nations' best interests that the moratorium remains implemented but is modified to a more appropriate season that all affected countries agree to. As research indicates, fisheries that are regulated by strong management institutions and have regular stock assessments, are much better at rebuilding to sustainable levels than those without.³² By modifying the season in which the moratorium is in place, not only will China's fleet capacity be reduced, but it can also be ensured that fishing within the region remains sustainable for all fishermen.³³

Approach 2: Addressing China's Fishing Practices at the Regional and International Level

2A. Utilizing Military Intervention

One method through which other countries have already sought to address China's fishing practices is through military intervention. As aforementioned, there have been many incidents where ships accused of illegal fishing activity have been blown up to send a message that such behavior will not be tolerated. China especially has been both the "victim" and the "perpetrator" of such actions. Eyond blowing up ships though, military intervention also looks like increased patrolling by countries' navies, to catch or deter IUU fishing. The United States in

- 30 Fu
- 31 Maulaya
- 32 Wang
- 33 It should be noted that although China's moratorium has been criticized for its inopportune timing, sources have indicated that there is a possibility China intentionally selected this time frame in order to hinder its fishing rivals, the Philippines and Vietnam.
- 34 Fu
- 35 Runion, Jennifer. 2023. "Fishing for Trouble: Chinese IUU Fishing and the Risk of Escalation." U.S. Naval Institute.
- 36 Runion

particular has begun prioritizing IUU fishing as an issue and has established an alliance with Japan and the Philippines to address illegal fishing, with a special focus on China.³⁷

While military disputes over fishing with countries like the Philippines and Argentina have certainly sent the message to China that their practices need to be addressed and revised, China's progress towards actually addressing these issues has been lacking. However, should China be pressured by a larger military force such as the United States', they may be more inclined to take the threat seriously. However, while utilizing military intervention could be effective at deterring China from engaging in such activities, there is the potential that if these violent disputes continue, they could escalate into all-out war.38 So, if the global fishing industry is to be peaceful, military intervention will need to be taken with careful consideration of the ramifications and does not likely pose a long term solution.

2B. Encouraging China to Join International Fishing Agreements

While China was one of the first nations to ratify UNCLOS when it was created³⁹, there are several other important international fishing agreements that China is not a part of. One such agreement is the Fish Stocks Agreement, which seeks to protect fish that migrate between the EEZs of multiple countries. Although China has signed this agreement, it has yet to ratify it. Additionally, China has not signed the 1993 FAO Compliance Agreement, which established important standards for fishery operations on the High Seas.⁴⁰ Furthermore, China has also yet to agree to

the Port State Measures⁴¹, which is the first comprehensive agreement to address IUU fishing on an international scale.⁴²

Each of these agreements helps to ensure that the international fishing industry is conducted sustainably, and peacefully. If China were to ratify each of these agreements. it would be expected to uphold the standards that they set forth both domestically and internationally. Such pressure from the international community could help to ensure that China's fishing practices moving forward are conducted responsibly, and meet the expectations agreed upon by the international community. Moreover, by joining these important international agreements, China will not only be able to establish or repair diplomatic relationships with other nations through the ties of the agreements themselves, but it will also be forced to see to it that this international issue is addressed.

2C. Tackling IUU Fishing

It is estimated that between 20 to 50 percent of all fish harvested globally are the result of IUU fishing.43 While China's government has made attempts to combat its vessels prevalent IUU fishing abroad, these attempts have been largely unsuccessful.44 China's inability to address its illegal fishing, has resulted in severe pushback from neighboring countries and increased tensions throughout the Indo-Pacific region. The threat that China's IUU fishing poses has also drawn the attention of states such as the U.S and Japan, who have become more involved in patrolling and fending off IUU efforts.45 To prevent Chinese fishing vessels from engaging in IUU fishing, international organizations will need to improve efforts to tackle this global issue, thereby forcing China to reel in its illegal fishing.

³⁷ U.S. Embassy Manila. 2021. "BFAR-USAID Study Calls for Public Support to Combat Illegal Fishing." U.S. Embassy in the Philippines.

³⁸ Higgins-Bloom

³⁹ Xie, Feng. 2022. "Implement UNCLOS in Full and in Good Faith and Actively Contribute to Global Maritime Governance." Ministry of Foreign Affairs of the People's Republic of China.

⁴⁰ Mallory, Tabitha. 2013. "China's Fisheries

Management Policy." China's Fisheries Management
Policy 33, no. 2 (Summer - Fall): 85 - 91.

⁴¹ FAO. n.d. "Parties to the PSMA | Agreement on Port State Measures (PSMA)." Food and Agriculture Organization.

⁴² FAO. n.d. "<u>Agreement on Port State Measures</u> (<u>PSMA</u>)." Food and Agriculture Organization.

⁴³ Higgins-Bloom

⁴⁴ Mallory. 2013.

⁴⁵ Runion

While aforementioned the Port State Measures Agreement is a good step forward in addressing IUU fishing, it only focuses on catching illegal fishing vessels that have attempted to come to port and does not holistically address how illegal fishing is able to be conducted.46 To do so, internationally standardized forms of ship traceability will need to be implemented to prevent vessels from crossing over into other countries' EEZs. Furthermore, certification systems will need to be administered, in order to prevent underreporting.47 Ultimately, by focusing on tackling IUU fishing, other countries can compel Chinese vessels to abide by agreed upon sustainable fishing practices, ensuring that China does not continue to support behavior that causes damage to the environment, and jeopardizes its foreign relations.

2D. Strengthening Enforcement of UNCLOS by Bolstering the Role of the International Tribunal for the Law of the Sea

The United Nations Convention on the Law of the Sea (UNCLOS) or simply the Law of the Sea is an internationally recognized agreement that establishes how the oceans of the world are to be governed. This means establishing the rights of all nations regarding utilization of ocean resources, as well as addressing environmental concerns.48 However. principles set forth by UNCLOS have been criticized as vague, as they do not clearly express how states are to uphold these laws, especially when it comes to environmental principles. To interpret the convention and to ensure disagreements about UNCLOS are resolved peacefully, the International Tribunal for Law of the Sea was established.49

While the Tribunal's jurisdiction is limited to just interpreting the Law of the Sea, many of the disputes that China has had involve concerns with EEZs, a matter which the Tribunal does have jurisdiction over. 50 However, at present there hasn't been a single case presented before the Tribunal that focuses on China.51 If countries were encouraged to bring their disputes to the Tribunal, it could be ensured that the matter is resolved peacefully by a neutral third party.52 It should be noted though, that China has already indicated an unwillingness to abide by the Tribunal's decision, as indicated in 2016 when they disregarded a decision made on a case brought forth by the Philippines, claiming it would have affected China's territorial sovereignty.53 So, while bolstering the role of the Tribunal gives states an avenue through which they can try to address their concerns, it may not prove to be effective.

2E. Establishing a Regional Fishing Management Organization for the South China Sea

Regional Fishing Management Organizations (RFMOs) have been utilized all across the globe as a means to address collective concerns over fishing practices.⁵⁴ The mandate of RFMOs allows them to operate in areas outside of national jurisdiction, in addition to providing states with an avenue through which they can come together and address common interconnected problems. However, at present, there is no RFMO within the South China Sea (SCS) region.⁵⁵ Although China has been increasing fishing efforts that take its fleet farther and farther away from these waters, it still greatly depends upon the resources of the

⁴⁶ Bryce, Emma. 2022. "Port State Measures Agreement: The treaty that aims to end illegal fishing, explained." China Dialogue Ocean.

⁴⁷ Mallory. 2013.

⁴⁸ IMO. n.d. "Legal Affairs - United Nations Convention on the Law of the Sea." International Maritime Organization.

⁴⁹ Ngoc Nguyen, Lan. 2022. "International Tribunal for the Law of the Sea." The Environment Through the Lens of International Courts and Tribunals, (June), 71 - 97.

⁵⁰ Ngoc Nguyen

⁵¹ International Tribunal for the Law of the Sea. n.d. "<u>List of Cases</u>." International Tribunal for the Law of the Sea.

⁵² Ngoc Nguyen

⁵³ Phillips, Tom, Oliver Holmes, and Owen Bowcott. 2016. "Beijing rejects tribunal's ruling in South China Sea case." The Guardian.

⁵⁴ NOAA Fisheries: International Affairs. 2023.
"International and Regional Fisheries Management Organizations." NOAA Fisheries.

⁵⁵ Hongzhou, Zhang. 2017. "Fisheries cooperation in the South China Sea: evaluating the options." Marine Policy 89:67-76.

SCS.⁵⁶ Furthermore, it is estimated that over 50% of all fishing vessels operate within the SCS, making it a hotspot for fishing activity.⁵⁷ However, without the presence of a regional governing body, IUU fishing within this region has increased significantly.⁵⁸

When executed properly, RFMOs can be very effective at handling regional fishing concerns. Additionally, an RFMO in the SCS would provide other countries who utilize the sea the opportunity to address their grievances with China and come to an agreement that is favorable for all parties. This would not only lead to a decrease in hostility within the region but also ensure that SCS fish stocks are managed sustainably. Moreover, if an RFMO is established in the SCS, and the sustainability of fish stock in the region is improved, China will not only be able to repair relations with its neighboring countries but also rely on fish sources close by, thereby alleviating pressure from other sources.

RECOMMENDED SOLUTION

Given the complex nature of regulating fishing on a global scale, there is no singular solution that can address all aspects of China's international fishing practices. To holistically tackle the issues that China's fishing presents. there will need to be a modification of China's behavior at both the domestic and international levels. This means that China should continue committing itself to limiting its fleet's capacity through establishing rights-based fishery management as well as reducing fishing subsidies. However, given China's recalcitrant attitude towards limiting its fishing fleet, it is the recommendation of this paper that focus be given to not only establishing a regional fishery management organization in the South China Sea but also to strengthening the efforts of other RFMOs worldwide.

While some RMFOs have been very effective, such as the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR). struggled with enforcing others have unfocused goals and adapting to unforeseen changes,59 in addition to unresolved tensions amongst members.60 For RMFOs to be effective like the CCAMLR then, they will need to be able to adapt as situations change within their region. They must also have a clearly stated mission, as well as regular performance assessments. Additionally, RMFO policies are far more likely to be successful, when they are agreed upon by all members, but remain clear and strict.61 If current existing RMFOs were to strengthen their already existing institutions, they could establish standards for nations that are not a part of their region but wish to fish there, like China. Alone these states may not have the capacity to limit China's formidable fishing fleet, but together, they could likely pressure China to comply.

Additionally, China would benefit greatly from establishing an RFMO within the South China Sea. The SCS is of strategic value to China, and its stringent defense of the area has led to conflict with many of its neighbors.62 If an RFMO were to be established though, these neighboring countries would have a venue through which they could peacefully resolve their fishing disputes with China, ensuring that the region remains secure and sustainable. Moreover, RFMOs can tackle many of the problems that contribute to China's poor fishing practices, including IUU fishing. Ultimately, RFMOs are the only bodies capable of comprehensively ensuring regional prosperity through the management of fish and other marine resources beyond national iurisdiction.63 Furthermore, China is already a member of all the world's tuna

⁵⁶ Maulaya

⁵⁷ Poling, Gregory B. 2019. "<u>Illuminating the South China Sea's Dark Fishing Fleets</u>." Stephenson Ocean Security Project.

⁵⁸ Hongzhou

⁵⁹ Haward, Marcus. 2020. Governing Oceans in a Time of Change. N.p.: Edward Elgar. 10.4337/8781788119368.

⁶⁰ Mallory. 2013.

⁶¹ Haward

⁶² Poling, Gregory B. 2019. "Illuminating the South China Sea's Dark Fishing Fleets."

Stephenson Ocean Security Project.

⁶³ Haward

RFMOs, indicating that it is willing to join such organizations.⁶⁴

It is proposed then that while China should continue to address its international fishing practices by implementing restrictions at the domestic level, the international community needs to strengthen existing regional fishery management organizations, in addition to establishing an RFMO for the South China Sea region. While the challenges that China's international fishing practices pose cannot be solved overnight, change can be made over time with the commitment of both China, as well as the international community.

ADDITIONAL WORKS CONSULTED

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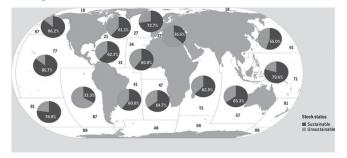
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APPENDIX

Percentages of Biologically Sustainable and Unsustainable Fishery Stocks by FAO Major Fishing Area, 2019 65



- 64 European Parliament. 2012. "The Role of China in World Fisheries." Policy Department: Structural and Cohesion Policies.
- 65 Food and Agriculture Organization. Figure 24. 2022. "The State of World Fisheries and Aquaculture 2022." Total Fisheries and Aquaculture Production.



Solutions to Critical Mineral Demand as Europe Transitions to Low-Carbon Energy

Yvette Bonnev

ABSTRACT

Europe's goals for a "green energy" future have serious implications for critical mineral demand. This indicates a need for more investment in the procurement and refining stages of Europe's critical mineral market as there is currently a large discrepancy between upstream and downstream investments. Reducing mineral inputs through recycling in conjunction with securing new sources of supply has the greatest potential for diversified and sustainable mineral sourcing. Recycling alone has the ability to significantly reduce primary demand relative to total demand which would lessen the need for new mining projects. However, Europe will likely be unable to achieve a completely self-sufficient critical mineral supply, and it will therefore be necessary to seek new markets in countries with underutilized mineral reserves in a manner that enhances development and diversification while promoting international trade ethically. The following is an evaluation of strategies to mitigate supply chain risks relative to mineral demand while maintaining Europe's goals for a low-carbon energy transition.

OVERVIEW

Europe has set ambitious goals to quickly reduce greenhouse gas emissions but currently lacks the policy and capital investment in the minerals required for such a transition. Nations are working to secure supply of critical minerals such as lithium (Li), cobalt (Co), nickel (Ni), copper (Cu), manganese (Mn), graphite, and rare earth elements (REEs) driven by large increases in demand coming from low-carbon technology. According to the International Energy Agency (IEA), total critical mineral demand from low-carbon tech is expected to increase 2-6 times by 2050. Critical minerals are vital for many end-uses,

have no economically viable substitutes, and face potential disruption in supply due to geopolitical or other factors.¹

The demand coming from low-carbon energy and storage technologies may exceed global stores of cobalt, lithium, and nickel as well as reaching 50% of indium, silver, and tellurium stores² potentially as early as 2080.³ A majority of this demand comes from EV and high-powered storage batteries which, as of 2016, already accounted for 34% of global lithium demand.⁴ Due to the 60% global increase of demand for lithium-ion (Li-ion) batteries, global cobalt and lithium carbonate equivalent production will need to double by 2025.⁵ 6

Given Europe's climate goals, by 2050, more than 60% of the installed power-capacity in the EU is predicted to come from solar, wind, hydro, and large battery storage. Europe does not presently have the processing capacity for the 400% more critical minerals this requires.⁷ It also lacks the sourcing for expected demand increases - REEs 7 times by 2050, lithium 12 times by 2030 and 21 times by 2050.8 There is an average of 16.5 years from mine discovery to production; waiting for a deficit in supply to emerge before investing in a new project will result in, inter alia, market tightness and price volatility to supply of wind, solar, and batteries.9 This highlights the need for more investment in the procurement and refining

stages of Europe's critical mineral market as there is currently a discrepancy of \$80 billion USD between upstream and downstream investments. Doing so will require encouragement by policymakers regarding the speed of transition and growth trajectories needed to attract new-investments; the more current industry players are benefited, the more new suppliers will enter into a diverse market.

The EU recently proposed the Critical Raw Materials Act with the intent of creating resilient, sustainable supply chains for critical minerals.12 This outlines goals and benchmarks such as diversification of imports, improvement of monitoring capacity, and developing a more circular supply chain model. For comparison, Japan has increased its supply of mineral resources by diversifying supply (investing in new sources), stockpiling, and partnering with countries involved in different parts of the supply chain.¹³ There are several strategies the EU could implement to achieve their energy goals: mitigating supply chain risks through mining specific programs or tracking strategies, improving battery recycling to reduce demand for mineral inputs, identifying new mining opportunities, integrating upstream and downstream actors, and technological advancements.14

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- 2 Dominish, E., Florin, N. and Teske, S. "Responsible Minerals Sourcing for Renewable Energy." *Institute for Sustainable Futures*, University of Technology Sydney. (2019)
- 3 IEA. "The Role of Critical Minerals in Clean Energy Transitions." IEA, Paris (2021). https://www.f.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions
- 4 Dominish, et al. "Responsible Minerals Sourcing."
- 5 Ritoe & Rademaker. "New Great Game."
- 6 Porizo, J., Scow, C. "Life-Cycle Considerations for Batteries and Battery Materials." Advanced Energy Materials 11, no. 33 (2021).
- 7 Ritoe & Rademaker. "The New Great Game."
- 8 European Commission. "Critical Raw Minerals Act." *The European Commission.* (2023)
- 9 IEA. "Role of Critical Minerals"

POSSIBLE SOLUTIONS

Solution 1: Mining-specific Programs

Mining-specific programs encourage better environmental and social governance (ESG) which increases the availability of responsibly

- 10 Ritoe & Rademaker. "New Great Game."
- 11 Deberdt, R., Le Billon, P. "The Green Transition in Context—Cobalt Responsible Sourcing for Battery Manufacturing." Society & Natural Resources. (2022)
- 12 European Comission. "Critical Raw Minerals."
- 13 IEA. "Role of Critical Minerals."
- 14 Dominish, E., Florin, N., Wakefield-Rann, R. "Reducing New Mining for Electric Vehicle Battery Metals: Responsible sourcing through demand reduction strategies and recycling." *Institute for Sustainable Futures, University of Technology Sydney.* (2021)

sourced products and reduces costs.¹⁵ By addressing the conditions of extraction at mine sites and directing attention and funding towards improving working conditions, buyers' confidence in the sourcing of materials is increased.¹⁶

The Mutoshi Pilot Project in the DRC involves stakeholders from all levels. A Congolese cooperative was created to provide technical, training, and equipment support to formalize and integrate artisanal small-scale miners into the supply chain to create a direct link between material extracted at the site and mining company Chemaf's processing plant. Projects like this are beneficial for the workers and purchasers alike; overall, this led to a 9-35% increase in productivity.¹⁷

Better Mining is a different type of program started by Berlin-based RCS Global Group providing monitoring and assurance practices at two mines controlled by CongoDongfeng Intl. Mining – a subsidiary of the world's largest cobalt refiner. This offers risk identification and incident reporting to concession owners and supporting companies using seven risk categories: environment, human rights, legality, security, working conditions, community, and traceability.18 This is useful as ESG concerns become more important to buyers, and producers are seeking low-conflict mining opportunities; it will also increase the likelihood that the identified supply will be stable in continuum.

Solution 2: Audit Strategies and Technology

Accountability measures can help improve supply chain resiliency when faced with disruptions. Thus, ensuring market transparency through regular market assessments, stress tests, etc. is important for securing mineral supply.¹⁹ Current audit

strategies are based on previous efforts to mitigate sourcing risks from conflict minerals. The goal is to identify all suppliers from mine to the final battery product creating a map of supply chains.²⁰ This ideally allows downstream companies to engage their suppliers with human rights abuse or other concerns.

One of the most efficient strategies for this is a blockchain system in which transactions are linked together to create a type of log. These are most common in the technology sphere and entered the mining sector with diamonds; blockchains are utilized mostly because they are meant to be incorruptible in nature. The RCS Global Group implements the Responsible Sourcing Blockchain Network (RSBN) in partnership with miner Glencore, refiner Huayou Cobalt, battery maker LG Chem, and several vehicle manufacturers. The platform uses IBM Hyperledger Fabric to provide incorruptible auditing information throughout the supply chain. However, there are limitations due to on-site monitoring, and therefore the root causes of supply chain disruptions cannot be adequately addressed, and this can only be used as a limited reporting tool.21

Solution 3: Reduction of Mineral Inputs Through Recycling

Pyrometallurgical recycling can recover nickel (Ni), cobalt (Co), manganese (Mn), and copper (Cu) by using a smelting process. The other metals, including lithium (Li) and aluminum (Al), are oxidized and unable to be recovered. Hydrometallurgical recycling uses a physical separation process which can recover a greater percentage of battery materials by mass including those four as well as Li and Al. Both processes are designed to recover the cathode and the anode. Direct recycling can recover all metals plus others and they can be reused without further processing. Additionally, only this method can recover the electrolyte.²²

¹⁵ Berahab, Rim. "The Energy Transition Amidst Global Uncertainties: A Focus on Critical Minerals." *Policy Center for the New South* 37, no. 22. (2022).

¹⁶ Deberdt, R., Le Billon, P. "The Green Transition in Context"

¹⁷ Berahab. "The Energy Transition."

¹⁸ Berahab. "The Energy Transition."

¹⁹ Deberdt & Le Billon. "The Green Transition in Context."

²⁰ Berahab. "The Energy Transition."

²¹ Porizo & Scow. "Life-Cycle Considerations."

²² Porizo & Scow. "Life-Cycle Considerations."

Most metals that come from general endmarkets are recycled into the same product (not into batteries) as with Co and Ni recycling at an industrial scale with rates of over 60% versus less than 1% of Li and 45% of Cu. Copper will see the most reduction in primary demand utilizing general end-markets.23 If recycling processes are standardized to meet the required refinement quality for Li-ion and EV batteries, general end-use supply would become more viable for sourcing battery materials. Recycling end of life Li-ion batteries has mature technology but a limited ability to recover a wide range of elements at a high enough quality for new batteries though it is technologically possible to recover Ni, Co, Mn, and Cu, at rates over 90%.24 The most impact for reduction in primary demand for Co and Ni will come from the use of recycled metals from end-of-life EV Li-ion batteries – assuming recycling continues at current high recovery rates. Nearly all reduction in primary demand for Li will need to be from recycled metals from end-of-life EV li-ion batteries at a higher recovery rate than currently implemented.25

Solution 4: Securing Sources of Supply

There is high geographical concentration among critical minerals, for example the Democratic Republic of Congo (DRC) supplies over 60% of the world's cobalt and contains more than half of global reserves, which can lead to conflict, price instability, and artificial shortages. Production is also concentrated as China controls more than 40% of the global processing capacity of copper, 60% of lithium, and 80% of REEs.²⁶ The EU has set a benchmark for no more than 65% annual consumption from a single third country, and there are currently many countries with large shares of mineral reserves not producing a substantial share of global supply that offer potential for mining expansion and investment.27 28 All of these countries have sufficient supply to be

long term sources for these minerals; Europe has close ties with many countries in areas whose political or social climate do not pose supply chain risks.^{29,30}

Giving mines with responsible sourcing and certification preferential purchasing contracts would provide producers with security of supply as well as easier access to finance.³¹ For example, the EU could grant temporary exemptions on import duties and value added tax to companies wanting to import essential chemical compounds. In doing so the European market would become a more attractive trade destination which would allow a steadier flow of minerals to Europe. Currently, China levies import duties and value added tax of 15% more than the market value of Li compounds, but traders are willing to pay because nowhere else in the world has the processing capacity.

Solution 5: Integration of Upstream and Downstream Actors

Europe has capital invested in downstream markets for Li-ion batteries and EVs, but less invested in mining or raw materials extraction and refinement, Inclusion of downstream manufacturers in mining and processing is a remedy to this scenario by allowing direct investment as well as offering supply countries the ability to see rewards from later steps in the supply chain. Inclusion of producing countries in integrated value chains is of equal importance. Europe can offer resource rich countries a chance to engage downstream and get more value from the supply chain. The EU recently announced a partnership of this nature with Canada that can serve as an example.33

The European Battery Alliance and the European Raw Material Alliance offer a platform for buyers from different parts of the critical minerals supply chain to interact. This allows the securement of raw materials as

²³ Dominish, et al. "Reducing New Mining."

²⁴ Porizo & Scow. "Life-Cycle Considerations."

²⁵ Porizo & Scow. "Life-Cycle Considerations."

²⁶ Porizo & Scow. "Life-Cycle Considerations."

²⁷ Dominish, et al. "Responsible Minerals Sourcing"

²⁸ Ritoe & Rademaker. "The New Great Game."

²⁹ Ritoe & Rademaker. "The New Great Game."

³⁰ Dominish, et al. "Reducing New Mining."

³¹ Dominish, et al. "Reducing New Mining."

³² Ritoe & Rademaker. "The New Great Game."

³³ Ritoe & Rademaker. "The New Great Game."

well as the processing and refining capacity to make final products. ³⁴ This idea could also be expanded to include foreign expertise while maintaining European ownership. To become less dependent on foreign powers, Europe needs to increase investments in resource development and skilled labor. Using East Asian methods as an example would allow these processes to be expedited as Chinese and South Korean Companies have been making headway in this sector for years with companies like LG and Panasonic. ³⁵

Solution 6: Technological Innovation

In the past decade, technological innovations have led to a 40-50% reduction in silver and silicon use associated with solar PV cells. Commercial wafer-based silicon cells have increased efficiency from 12% to 17% since 2010 and cadmium-telluride from 9% to 19%. Since 2008, wafer thickness decreased, silicon and silver intensity decreased 50% and 80%, respectively. Similarly, larger wind turbines are allowing for higher megawatt (MW) outputs. Growing from 1.9 MW to 2.6 as of 2018. 5 MW was offered onshore as of 2021. and newest developments could be as high as 14 MW with promises of 20 soon. In terms of kilograms per MW a 3.45 MW turbine contains 15% less concrete, 50% less fiberglass and copper, and 60% less aluminum than a 2 MW turbine.36

Similar improvements are also being made in production technologies with direct lithium extraction (DLE) and enhanced metal recovery from low-grade ores.³⁷ Eighty percent (80%) of global lithium is found in salt lake brines. DLE is the process of removing lithium from the low Li-ion concentration aqueous solution it is in, thus eliminating the need for hard rock mining. The current extraction process for lithium brine requires a pre-enrichment process taking several months. DLE eliminates this and has potential implications for seawater as well which would be an inexhaustible source

of lithium, and in some ways more sustainable than hard rock mining. However, there are still several technological boundaries for large scale DLE namely selectivity, separation efficiency, recovery, and lifetime.³⁸

Solution 7: Developing Supply Sources in Europe

Currently, the EU is entirely reliant on outside sources for its mineral supply. However, it has recently set goals to reduce its dependence on outside sources in the *Critical Raw Minerals Act*. The new regulation sets specific goals for EU mineral capacity by 2030 including 10% of the EU's annual consumption for extraction, 40% for processing, and 15% for recycling to come from domestic sources.³⁹ Some EU member states already have refining and manufacturing capacity, for example, Finland refines 10% of the world's cobalt.⁴⁰ However, this does not help with the supply issue, for that Europe would need to invest in regional mining projects in addition to manufacturing.

There are 111 industrial battery projects being developed in various EU member states including an estimated 20 battery-cell gigafactories. With this, the EU is projected to meet 69% and 89% of its increasing demand for batteries by 2025 and 2030, respectively, and will eventually be able to produce 11 million batteries per year. However, this is for finalstage products and not minerals themselves. There is mention of reducing administrative burdens by shortening permitting procedures for critical raw materials projects in the EU (24 months for extraction and 12 months for recycling), and that countries will need to develop national programs for exploring geological reserves.41

³⁴ European Commission. "European Battery Alliance." *European Commission.* (2022)

³⁵ Ritoe & Rademaker. "The New Great Game."

³⁶ IEA. "Role of Critical Minerals"

³⁷ IEA. "Role of Critical Minerals"

³⁸ Murphy, O & Haji, MN. A review of technologies for direct lithium extraction from low Li+ concentration aqueous solutions. Front. Chem. Eng. 4: 1008680. (2022).

³⁹ European Commission. "Critical Raw Minerals Act."

⁴⁰ European Commission. "European Battery Alliance."

⁴¹ European Commission. "European Battery Alliance."

RECOMMENDED SOLUTION

A combination of Solution 3: Reduction of mineral inputs and Solution 4: Securing sources of supply offers the most opportunity for diversified and sustainable mineral sourcing. Recycling alone can reduce primary demand relative to total demand by 25% for lithium, 35% for cobalt and nickel, and 55% for copper by 2040, thus reducing demand for new mining projects. 42,43 For what cannot be fulfilled through recycling, it will still be necessary to quickly seek new markets in countries with underdeveloped mineral reserves.

In the EU 50% total base metal production is supplied from secondary production of recycled metals - compared to the global average of 18%.44 Integrating recycling with battery manufacturing supply chains will improve the scale of recovery pathways to increase recycling; currently, only small volumes of metals are available from endof-life Li-ion batteries relative to demand. Industry can be optimized for recycling needs and high value metal recovery for large numbers of EVs and PV cells - the only sector which currently has this is wind turbines.45 Wind turbines and Li-ion batteries will offer new recycling streams for REEs and lithium especially as there will be an exponential growth in spent EV batteries after 2030. By 2040, recycled quantities of copper, lithium, nickel, and cobalt from spent batteries could reduce combined primary supply for these minerals by approximately 10%.46

EU Directive 2006/66/ EC Battery Directive, EU ELV Directive 2000/53/EC On End-Of-Life Vehicles, and EU Directive 2002/95/EC contain environmental regulations relating to battery recycling, but no specific stipulations for Liion or EV batteries, and should be updated or replaced with sufficient standards for end-use processing of low-carbon tech.⁴⁷

42 Dominish, et al. "Responsible Minerals Sourcing"

The EU is prioritizing producer responsibility by mandating PV panels and all end-oflife EV and stationary batteries be taken back by producers in the existing 2012 EU Directive for Waste Electrical and Electronic Equipment Development (WEEE). The PV Cycle scheme from 2007 is a voluntary take-back and treatment system for the end-of-life management of PVs in all member states of the EU and European Free Trade Area. Similarly, WEEE manages end-of-life PV panels wherein producers are liable for the costs of collection. treatment, and monitoring.48 In the Critical Raw Minerals Act. Member States of the EU will need to develop better recycling schemes and investigate opportunities for mineral extraction from current and historical mine wastes.

However, new investment in mining will still be necessary even if end-of-life recycling rates reach 100% by 2050.49 The differing distribution of critical minerals across countries gives opportunity for new energy-trade patterns particularly with Australia and countries in Africa and Asia. Africa, which contains 42 of 66 identified critical minerals, has strong economic ties to the EU; this partnership has been developing as Europe diversifies its supply.50 Europe will never have an entirely self-sufficient critical mineral supply, and it will need to continue to rely on outside countries for a majority of its needs.51 It can do this in a way that enhances development and diversification while promoting international trade in an ethical manner.

⁴³ Dominish, et al. "Reducing New Mining."

⁴⁴ IEA. "Role of Critical Minerals"

⁴⁵ Dominish, et al. "Reducing New Mining."

⁴⁶ IEA. "Role of Critical Minerals"

⁴⁷ Ritoe & Rademaker. "The New Great Game."

⁴⁸ Ritoe & Rademaker. "The New Great Game."

⁴⁹ IEA. "Role of Critical Minerals"

⁵⁰ Deberdt & Le Billon. "The Green Transition in Context."

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The Sinking Megacity: Land Subsidence and Flooding in Jakarta, Indonesia

Matty Murphy
Martin Scholars

INTRODUCTION

Located on the north coast of Java Island. Jakarta is the largest city in Indonesia, with a population of just under 10.5 million people, corresponding to about 4% of Indonesia's total population.1 Greater Jakarta, which includes the surrounding cities of Depok, Bogor, Tangerang, and Bekasi, in turn has a population of approximately 30 million.2 By 2035, Greater Jakarta is expected to grow to over 38 million people, which would make it the largest urban population in the world, just ahead of Tokyo.3 With an estimated 40% of the city being built below sea level,4 in addition to being situated in a coastal river basin intersected by 13 rivers which flow throughout the city, approximately 73% of Jakarta's subdistricts experience yearly flooding at least to some degree.5 As a result, Jakarta has one of the highest levels of flood risk in the world today. A fact which costs Indonesia approximately USD 400 million annually in property damage and lost productivity.6 To date, Jakarta's municipal disaster risk reduction strategies have been an admixture of short-term

 [&]quot;BPS-Statistics of DKI Jakarta Province," 2020, https://jakarta.bps.go.id/publication/202 0/04/27/20f5a58abcb80a0ad2a88725/provinsidki-jakarta-dalam-angka-2020.html.

^{2 &}quot;BPS-Statistics of DKI Jakarta Province," 2019.

³ Richard Holt, "Which Cities Will Be Leading the Global Economy in 2035?," Oxford Economics, 2018, https:// resources.oxfordeconomics.com/global-cities-2035.

^{4 &}quot;Jakarta - Urban Challenges in a Changing Climate," World Bank, 2011, pg. 9, https://documents. worldbank.org/en/publication/documents-reports/ documentdetail/132781468039870805/Jakarta-Urban-challenges-in-a-changing-climate.

⁵ Gusti Ayu Ketut Surtiari et al., "11 - Investing in Flood Adaptation in Jakarta, Indonesia," in *Investing* in *Disaster Risk Reduction for Resilience*, ed. A. Nuno Martins et al. (Elsevier, 2022), pg. 264, https:// doi.org/10.1016/B978-0-12-818639-8.00006-5.

⁶ World Bank, 2011, pg. 11.

solutions, uncoordinated programs,⁷ and infeasible mega-projects.⁸ This brief first investigates two of the primary causes of Jakarta's flood risk (namely sea-level rise and land subsidence), then presents potential solutions, and finally recommends and details one policy solution.

PROBLEM OVERVIEW: SUBSIDENCE AND SEA-LEVEL RISE

With mean global sea-levels rising by an estimated 3.3 millimeters a year due to climate change,9 coastal cities around the world face a significant threat. Jakarta in particular has seen its waters rise by 3.2 mm/a, just under the global average.10 In addition to sea-level rise, however, Jakarta's flood risk been greatly compounded by an additional factor. Due to unsustainable welling practices, the city is sinking into the ground by an average of 60mm (2.5 inches) per year.11 Predominantly due to a lack of sufficient water infrastructure, an estimated 64% of Jakarta's total population relies on a series of private wells to meet their daily water needs.12 Largely commissioned by families for domestic use, household wells extracting water from Jakarta's

- 7 Miguel Esteban et al., "Adaptation to Sea Level Rise: Learning from Present Examples of Land Subsidence," Ocean & Coastal Management 189 (May 1, 2020): 104852, https://doi. org/10.1016/j.ocecoaman.2019.104852.
- 8 Agnes Anya and Callistasia Wijaya, "Govt Cancels Great Garuda Seawall - Mon, December 11 2017 - The Jakarta Post," The Jakarta Post, accessed October 28, 2022, https://www.thejakartapost.com/news/2017/12/11/ govt-cancels-great-garuda-seawall.html.
- 9 NASA Global Climate, "Sea Level | NASA Global Climate Change," Climate Change: Vital Signs of the Planet, accessed December 7, 2022, https://climate.nasa.gov/vital-signs/sea-level.
- 10 Lisa-Michéle Bott et al., "Land Subsidence in Jakarta and Semarang Bay The Relationship between Physical Processes, Risk Perception, and Household Adaptation," *Ocean & Coastal Management* 211 (October 1, 2021): 105775, https://doi.org/10.1016/j.ocecoaman.2021.105775.
- 11 Ibid
- 12 Hasanuddin Z. Abidin et al., "Land Subsidence of Jakarta (Indonesia) and Its Relation with Urban Development," *Natural Hazards* 59 (December 1, 2011), https://doi.org/10.1007/s11069-011-9866-9.

underground aquifer are thought to number approximately 70,000 in total.¹³ Resulting from a lack of municipal regulation concerning their placement and extraction levels, such wells have come to greatly deplete the groundwater basin underlying Jakarta, leading to the inward collapse (or subsidence) of the land upon which the city is built.¹⁴

An unparalleled risk-multiplying effect has, therefore, emerged in Jakarta. In addition to experiencing rapid urbanization, land use change, and population growth—all of which contribute an increased flood risk—sea-level rise and land subsidence have transformed Jakarta into one of the largest, most flood-

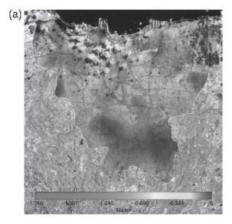


Fig. 1 North Jakarta shaded in grey. (Wikimedia Commons)

prone cities in the world today. This is no better exemplified than by the disastrous flooding events which have struck the city since the turn of the millennium, occurring in

^{13 &}quot;Jakarta People Are Digging Their Own Wells for Water, but This Makes the City Sink Faster," 2022, https:// www.channelnewsasia.com/asia/indonesia-jakartagroundwater-dig-own-wells-city-sinking-2785126.

¹⁴ Michael Kimmelman and Josh Haner, "Jakarta Is Sinking So Fast, It Could End Up Underwater," *The New York Times*, December 21, 2017, sec. World, https://www.nytimes.com/interactive/2017/12/21/world/asia/jakarta-sinking-climate.html, https://www.nytimes.com/interactive/2017/12/21/world/asia/jakarta-sinking-climate.html.





Subsidence colored from high (red) to low (blue).

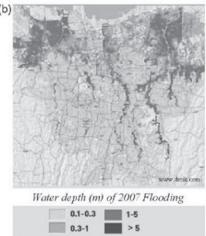


Fig. 2 Spatial correlation between land subsidence and flooding area (2007) (H. Z. Abidin et al.) Note:

2007, 2013, and 2020. The largest flooding event to date occurred in late January of 2007, inundating approximately 70% of the city with sea water—in some areas up to a depth of seven meters (22 feet)—resulting in over 70 deaths and displacing an astonishing 340,000 people. Closely following this were floods in 2020, again during January, which killed at least 66 people and displaced another 175,000. Finally, the 2013 floods displaced an estimated 67,000 people and resulted in at least 22 reported deaths.

The adverse combination of sea-level rise and land subsidence, however, has not affected all parts of the city in equal measure. This is particularly evident when looking at the district of North Jakarta (*Fig. 1*), where portions have sunk by up to 4m (13 feet) between 1974

and 2010.¹⁸ The former site of Dutch colonial power in Jakarta, North Jakarta is the city's coastal municipality with a population of 1.8 million people, and is arguably one of the city's poorest districts.¹⁹ Approximately 190,000 of North Jakarta's residents live in unregistered, informal settlements known as 'kampungs,' which are highly vulnerable to destruction during flooding events.²⁰ In accordance with research demonstrating that areas of increased subsidence experience aggravated flooding effects,²¹ the North Jakarta regularly endures the most devastating impacts of disaster-level floods (*Fig. 2*). As a result,

¹⁵ Abhas K. Jha, Robin Bloch, and Jessica Lamond, "Cities and Flooding: A Guide to Integrated Urban Flood Risk Management for the 21st Century" (Washington, DC: World Bank, 2012), pg. 608, https://openknowledge.worldbank.org/handle/10986/2241.

¹⁶ Joshua Berlinger Yee Isaac, "66 People Now Killed by Flooding in Jakarta, and More Rain Appears to Be on the Way," CNN, January 6, 2020, https://www.cnn. com/2020/01/06/asia/jakarta-floods-intl-hnk/index.html.

^{17 &}quot;Indonesia: Floods - Jan 2013 | ReliefWeb," October 7, 2016, https://reliefweb.int/disaster/fl-2013-000006-idn.

¹⁸ S. Rahman, U. Sumotarto, and H. Pramudito, "Influence the Condition Land Subsidence and Groundwater Impact of Jakarta Coastal Area," *IOP Conference Series: Earth and Environmental Science* 106, no. 1 (January 2018), pg. 1, https://doi.org/10.1088/1755-1315/106/1/012006.

¹⁹ Brittany Betteridge and Sophie Webber, "Everyday Resilience, Reworking, and Resistance in North Jakarta's Kampungs," Environment and Planning E: Nature and Space 2, no. 4 (December 2019): 944–66, https://doi.org/10.1177/2514848619853985.

²⁰ Waleed S Alzamil, "Evaluating Urban Status of Informal Settlements in Indonesia: A Comparative Analysis of Three Case Studies in North Jakarta," *Journal of Sustainable Development* 11, no. 4 (July 29, 2018): 148, https://doi.org/10.5539/jsd.v11n4p148.

²¹ H. Z. Abidin et al., "On Correlation between Urban Development, Land Subsidence and Flooding Phenomena in Jakarta," Proceedings of the International Association of Hydrological Sciences 370 (June 11, 2015), pg. 17, https:// doi.org/10.5194/piahs-370-15-2015.

barring adaptive action, North Jakarta is predicted by some to be fully submerged as a result of floods by 2050.²²

POLICY GOALS AND ACTORS INVOLVED

Before introducing potential policy solutions, it is necessary to first establish the metrics by which such solutions will be assessed. In no particular order these are: financial efficacy, project efficiency, community equity, and political feasibly. Financial efficacy should be considered in relation to Indonesia's total budget of USD \$200 billion, as well as Jakarta's municipal budget of USD \$800 million.23 While other funding sources have been made available to Indonesia at the international level,24 these will be considered only when applying directly to Jakarta and its efforts in flood reduction and adaption. Relatedly, while proposed solutions may address a variety of national or international policy issues, for the purposes of this brief, a given policy solution will be considered efficient only by the degree to which it would reduce flood risk exposure and/or increase flood adaption in Jakarta. Community equity will be measured principally through an assessment of whether proposed solutions positively target (or have the effect of targeting) those most affected by flooding in Jakarta, e.g., the residents of North Jakarta. Implicitly contained within such a goal is an assumed level of satisfaction, when choosing between potential solutions, of the district's residents. When available, satisfaction of North Jakarta's residents will be

assessed quantifiably or anecdotally.²⁵ When unavailable, satisfaction will be estimated through the normative lens of the author. Finally, political feasibility will be understood broadly to mean the capacity of the Jakartan government, given its current administrative structure, to meet the organizational demands of a proposed solution. For the most part, this metric will be construed historically, comparing past efforts of the government, successful and unsuccessful, with the policy solutions proposed.

Equally important as the policy goals themselves are the actors involved with the implementation of potential solutions. For the purposes of this brief these will be sorted into three broad categories. The first of which being the residents of Jakarta themselves, who are further categorized into residents of North Jakarta who highly prioritize flood mitigation, as well as concerned citizen groups such as the Save Jakarta Bay Coalition who prioritize the ecological health of Jakarta's water systems.26 Next there is the administrative government of Jakarta. Headed by a governor rather than a mayor²⁷ and lacking a city council,28 Jakarta's municipal government is highly centralized. Led by a former Mayor of

- 25 See, e.g., Betteridge and Webber "Everyday Resilience, Reworking, and Resistance in North Jakarta's Kampungs," for a fantastic example of an anecdotal satisfaction study in North Jakarta. For a quantifiable study, see Agra Prasetyo and Joko Adianto, "The Influence of Socio-Demographic Characteristics to Housing Satisfaction and Mobility," International Journal of Built Environment and Scientific Research 6 (December 20, 2022): 167, https://doi.org/10.24853/jibesr.6.2.167-180.
- 26 The Save Jakarta Bay for instance strongly opposes the Great Garuda plan detailed in Policy Solution #1. See "National Capital Integrated Coastal Development (NCICD) project in Jakarta Bay," Transnational Institute, December 7, 2016, https://www.tni.org/my/node/23337.
- 27 While Jakarta is divided into five administrative districts, the mayors of these districts serve only at the discretion of the governor and lack substantial independent authority.
- 28 In the place of city council there is Regional People's Representative Council of Jakarta. A relic of the Dutch East India Company, the Council has been plagued with corruption and is generally considered ineffective. See: Harmono Harmono et al., "Analysis of Regional People's Representative Council (DPRD) Comparative Study Activities in Efforts to Suppress Corruptive Behaviour," International Journal of Multicultural and Multireligious Understanding 7, no. 10 (November 5, 2020): 226–32.

- 23 "The Winners and Losers From Indonesia's \$206 Billion Budget," Bloomberg.Com, August 17, 2022, https://www.bloomberg.com/news/ articles/2022-08-17/more-winners-than-losersfrom-indonesia-s-206-billion-budget.
- 24 See, e.g., "New Financing Will Support Indonesia to Improve and Protect Human Capital," World Bank, accessed March 18, 2023, https://www.worldbank.org/en/news/press-release/2022/07/05/new-financing-will-support-indonesia-to-improve-and-protect-human-capital.

²² Mei Lin Mayuri and Rafiki Hidayat, "Jakarta, the Fastest-Sinking City in the World," BBC News, August 12, 2018, sec. Asia, https://www. bbc.com/news/world-asia-44636934.



Fig. 3 Ciliwung River during the 2007 floods. (JBA Risk Management)

North Jakarta who has made flood mitigation one of his top priorities, it is currently led by acting Governor Heru Budi Hartono. His interim status until gubernatorial elections are held in November of 2024, however, remains a limiting factor for his administration. Finally, there are international funding actors. This includes most prominently the World Bank and the Dutch Ministry of Foreign Affairs, each of whom have contributed significantly to flood mitigation projects in Jakarta.²⁹

STATUS QUO

While most studies agree that halting land subsidence is of greater urgency for Jakarta's long-term disaster risk reduction strategy,³⁰ the majority of the city's resources have been directed almost exclusively to flood mitigation and adaptation. These efforts have taken a variety of forms over the years and range significantly in scale. However, only the most major ongoing projects will be discussed indepth.

Beginning with flood mitigation, the most prominent project to date is the normalization, or widening, of the banks Ciliwung river (Fig. 3) to increase channel capacity and waterflow. While normalization were held back for many years by disputes over land acquisition—kampung residents near the river fought repeated attempts of forced relocation to make room for the expanded banks-in recent months both interim Governor Heru Budi Hartono and the President of Indonesia, Joko 'Jokowi' Widodo, have committed to seeing the project to its conclusion by 2024.31 Despite requiring significant population displacement (albeit concrete numbers are difficult to obtain).32 the estimated benefits of normalization seem to outweigh the costs in the eyes of Indonesian policymakers.33

Another mitigation project, though one which is somewhat more nebulous in its application to Jakarta specifically, is the World Bank's recently approved National Urban Flood Resilience Project (NUFReP) for Indonesia. Totaling USD \$400 million, the objective of NUFReP broadly is to reduce flood risk in Indonesian cities by increasing national and city-level capacities and investments for integrated urban flood risk management. Hold While broad in scope, a principal component of the plan aims to help the Indonesia government "establish and operationalize [an] umbrella national urban flood resilience program and

²⁹ See, e.g., "Development Projects: Jakarta Urgent Flood Mitigation Project - P111034," World Bank, accessed March 21, 2023, https://projects.worldbank. org/en/projects-operations/project-detail/P111034.

³⁰ Yus Budiyono et al., "River Flood Risk in Jakarta under Scenarios of Future Change," *Natural Hazards and Earth System Sciences* 16, no. 3 (March 17, 2016): 757–74, https://doi.org/10.5194/nhess-16-757-2016.

^{31 &}quot;Normalization of Ciliwung River to Continue Immediately," beritajakarta.id, accessed March 21, 2023, https://m.beritajakarta.id/en/read/49327/normalizationof-ciliwung-river-to-continue-immediately.

³² Doris Kokutungisa Ishenda and Shi Guoqing, "Adaptation Strategies of Relocated Persons in Flood Affected Areas: The Case of the Ciliwung River Area in Jakarta, Indonesia," *International Journal of Global Sustainability* 4, no. 1 (February 11, 2010): 33, https://doi.org/10.5296/ijgs.v4i1.16446.

³³ M. Yatsrib et al., "Study on the Contribution of Normalization to Reducing Flood Risk in the Ciliwung River, Tebet District, Jakarta," *IOP Conference Series: Earth and Environmental Science* 933, no. 1 (November 2021): 012032, https:// doi.org/10.1088/1755-1315/933/1/012032.

^{34 &}quot;Development Projects: Indonesia: National Urban Flood Resilience Project (NUFReP) -P173671," Text/HTML, World Bank, accessed March 21, 2023, https://projects.worldbank.org/ en/projects-operations/project-detail/P173671.

support project implementation."³⁵ Approved in December of 2022, and yet to be implemented, it is likely that at least some portion of the funds granted by the NUFReP will be directed to flood mitigation in Jakarta. Though given the project's early stage of execution, this remains to be seen

A similar project which has been fully realized and implemented in Jakarta, has been World-Bank-financed Urgent Flood Mitigation Project.³⁶ Costing USD \$140 million and lasting between 2012 and 2019, the Jakarta Urgent Flood Mitigation Project (JUFMP) provided the funds necessary to maintain as well as to improve flood mitigation systems in Jakarta. The first component of the project consisted of dredging and rehabilitating selected floodways, canals, and retention basins in Jakarta. The second component consisted of technical assistance for project management, social safeguards, and capacity building of Jakarta's Disaster Management Agency. Much like the Ciliwung normalization measures, the practical components of the JUFMP required significant displacement of kampung residents (though again reliable numbers are difficult to obtain).37 Considering, however, that according to the Jakartan government, the JUFMP decreased flooding by 30% in targeted areas - protecting an estimated 1 million people as a result—displacement has largely been considered an acceptable cost in the name of long-term sustainability.³⁸

A significant adaptive measure is the integration of early flood notification systems into Jakarta's emergency management infrastructure. Since September of 2016, the government has begun installing devices which provide real-time information regarding

35 Ibid.

water level conditions of selected rivers, both to the municipal government itself and to the general public.³⁹ The devices, which report water levels every two minutes, also sync with a downloadable phone application which allows users to access reports or to upload reports levels themselves. While users remain relatively low (between 50,000 and 100,000), as automatic water level recorders become more widespread throughout the city, there is hope that a digitally based early warning system will allow for significantly greater flood risk management.⁴⁰

Finally, while not a mitigating nor adaptive action, in 2019 the current president of Indonesia formally proposed to move the capital of Indonesia to an as yet unbuilt city on the island of Borneo in an effort to ameliorate some of the population pressure placed on Jakarta. While this of course does nothing to address the challenges faced by the city's residents who are confronted with increasing flood risks in the near term, it is hoped by some that such a move might nevertheless contribute to the long-term sustainability of Jakarta.

PROPOSED SOLUTIONS

Reinvigoration of Great Garuda Plan

By far the most ambitious plan to have been proposed so far in Jakarta is the National Capital Integrated Coastal Development (NCICD) Master Plan, whose principal aim was the construction of a massive sea wall in the shape of a garuda, the mythical bird featured on the coat of arms of Indonesia (*Fig. 2*). Proposed

^{36 &}quot;Development Projects: Jakarta Urgent Flood Mitigation Project - P111034," Text/HTML, World Bank, accessed December 4, 2022, https://projects.worldbank.org/en/projects-operations/project-detail/P111034.

³⁷ Lizzie Yarina, "Your Sea Wall Won't Save You," *Places Journal*, March 27, 2018, https://doi.org/10.22269/180327.

³⁸ Republic of Indonesia, Jakarta Urgent Flood Mitigation Project, "Resettlement Policy Framework," December 15, 2010. See also Eds. Etienne Turpin, Adam Bobbette, and Meredith Miller, Jakarta: Architecture and Adaptation (Jakarta: Universitas Indonesia Press, 2013), 92.

³⁹ Linda Widiachristy and Adinda Smaradhana Rachmanto, "THE EFFECTIVENESS OF JAKARTA SMART CITY APPLICATION IN ENHANCING COMMUNITY RESILIENCE IN FACING FLOOD RISK," *Journal of Architecture&ENVIRONMENT* 20, no. 1 (May 1, 2021): 45, https://doi.org/10.12962/j2355262x.v20i1.a9034.

⁴⁰ A. Wicaksono and H. Herdiansyah, "The Internet of Things (Iot) for Flood Disaster Early Warning in Dki Jakarta: 3rd International Geography Seminar 2019, IGEOS 2019," *IOP Conference Series: Earth and Environmental Science* 683, no. 1 (March 17, 2021), https://doi.org/10.1088/1755-1315/683/1/012103.

^{41 &}quot;Indonesia Names New Capital That Will Replace Jakarta," BBC News, January 18, 2022, sec. Asia, https://www.bbc.com/news/world-asia-60037163.



Fig. 4 Proposed sea wall. (Rendering by KuiperCompagnons)

in 2014 and led by the Dutch engineering firms Witteveen+Bos and Grontmij, the "Great Garuda" envisioned artificial islands in the Jakarta Bay anchored by what would be the world's largest sea wall. Costing an estimated USD \$40 billion, the Master Plan is based on the assumption that land subsidence in Jakarta cannot be stopped in time to protect the city from catastrophic flooding. Rather, by entirely enclosing the Jakarta Bay from the Java Sea, the NCICD aims at resolving the issue of flooding by creating, in effect, a wholly artificial municipal hydrology.

The scheme was initially to be financed by the Dutch government and by private development on the islands, including a new Central Business District which was to house an additional 1.5 million people. In 2015, the government of South Korea joined Indonesia and the Netherlands as a third partner, resulting in trilateral cooperation for the project. In early 2016, Indonesia, the Netherlands, and South Korea signed a Letter of Intent, in which they agreed to cooperate on a coordinated approach to the implementation of the NCICD

At its most basic level, the Great Garuda was and remains extremely unpopular politically. Principally, this is because of its profound social, economic, and environmental costs. The construction of the outer sea wall and the new waterfront city in Jakarta Bay would have a monumental impact on the fishing communities in North Jakarta who rely on access to the open ocean for their livelihoods. The closure of Jakarta Bay could amount to a total annual production loss for fishing activities in the city of approximately USD \$60 million, according to the research centre of the Indonesian Ministry of Maritime Affairs and Fishery.44 This is in addition to the radical ecological transformation the sea wall would entail. Because the surface waters of Jakarta Bay are heavily polluted by wastewater from households and commercial buildings on the coast, as well as with discharges from industries, pesticide and fertilizer run-off from

Master Plan.⁴³ These commitments, however, proved to be short lived.

⁴² M. Bakker, S. Kishimoto, and C. Nooy, Social Justice at Bay: The Dutch Role in Jakarta's Coastal Defence and Land Reclamation (Amsterdam, the Netherlands: Both ENDS, SOMO and Transnational Institute (TNI), 2017).

⁴³ Ibid.

⁴⁴ Kementerian Kelautan dan Perikanan [Indonesian Ministry Maritime Affairs and Fishery], "Dampak Sosial Ekonomi dan Rekomendasi Bijaksan, Reklamasi Teluk Jakarta [Social-economic consequences and policy recommendations, Reclamation Jakarta Bay]." 19 September 2016.

agricultural land, closing the bay off entirely from access to the open ocean requires a herculean effort to revitalize Jakarta's failing wastewater treatment system. A reluctance to do so would effectively turn the bay into a massive stagnant lake where wastewater would gather, becoming "the biggest rubbish dump and toilet in the world," according to the president of the Indonesian planners' association.⁴⁵

Therefore, following the 2016 gubernatorial elections in which former Governor Anies Baswedan was elected, the Great Garuda was quietly put on hold. The plan nevertheless remains a policy option, however, especially in the minds of the city's elite business class who view the NCICD as an economic boon which would significantly increase their investment opportunities.46 If the Great Garuda plan were reinvigorated, two primary hurdles must be addressed. Principally, financing must be re-established, and the environmental/ economic concerns of the project must be mitigated. While the original USD \$40 billion plan originally had the financial backing of private developers, as well as of the Dutch and Korean governments, because the project has been halted for more than five years, it is no longer clear who would finance the sea-wall. Furthermore, given that only 2-4 percent of Jakartan residents currently have access to an adequate sewage drainage and treatment system,47 developing a wastewater treatment system to handle the ecological transformation of the Great Garuda is highly unlikely in the short-to-medium term. Finally, the concerns of fishing communities in North Jakarta remain significant. The destruction of a traditional way of life for fisher folks represents a tear in a social fabric going back generations. If the NCICD were reinvigorated, utmost care and attention would be required in the retraining and resettlement of such communities.

Increasing Access to Piped Drinking Water

As mentioned, experts agree that halting land subsidence, as opposed to flood mitigation, is of greater urgency for Jakarta's long-term disaster risk reduction strategy.⁴⁸ Based on the past actions of Bangkok and Tokyo - both of whom experienced significant land subsidence as a result of groundwater extraction which has since been halted entirely49-if Jakarta were able to provide piped water supply to the 64% of its citizens who currently rely on private wells, it is estimated that the sinking of Jakarta would halt six years after groundwater extraction is completely terminated.50 There are, however, a series of obstacles to realizing an accessible, well-functioning piped water supply in Jakarta. The first of which being that, because of significant historical inequalities of access to the city's piped water infrastructure.51 there exists strong opposition to a privatized water supply by many of Jakarta's residents.52 Correspondingly, following an Indonesia Supreme Court ruling in 2018 which invalidated a government contract with the city's two

⁴⁵ Bernardus Djonoputro, quoted in Kompas, "Investasi Belanda untuk Kawasan Terpadu Pesisir Dianggap Hanya "Akal-akalan" [Dutch investment for Integrated Coastal Zone Considered Only "Subterfuge"]", 17 June 2015, http://indonesiasatu.kompas.com/read/2015/06/17/154121721/Investasi.Belanda.untuk. Kawasan. Terpadu.Pesisir.Dianggap.Hanya.Akal-akalan

⁴⁶ Bakker, Kishimoto, and Nooy, Social Justice at Bay.

^{47 &}quot;Cities without Sewers - Solving Indonesia's Wastewater Crisis to Realize Its Urbanization Potential," February 17, 2020, https://blogs.worldbank. org/eastasiapacific/cities-without-sewers-solvingindonesias-wastewater-crisis-realize-its-urbanization.

⁴⁸ Budiyono et al., "River Flood Risk in Jakarta under Scenarios of Future Change".

⁴⁹ G. Erkens et al., "Sinking Coastal Cities," Proceedings of the International Association of Hydrological Sciences 372 (November 12, 2015): 189–98, https://doi.org/10.5194/piahs-372-189-2015.

⁵⁰ Rahman, Sumotarto, and Pramudito, "Influence the Condition Land Subsidence and Groundwater Impact of Jakarta Coastal Area."

⁵¹ Tin Afifah et al., "Subnational Regional Inequality in Access to Improved Drinking Water and Sanitation in Indonesia: Results from the 2015 Indonesian National Socioeconomic Survey (SUSENAS)," Global Health Action 11, no. Suppl 1 (August 1, 2018): 1496972, https://doi.org/10.1080/16549716.2018.1496972.

⁵² The Jakarta Post, "What You Need to Know about Jakarta's Water Privatization," The Jakarta Post, accessed March 23, 2023, https://www.thejakartapost. com/news/2018/04/12/what-you-need-to-knowabout-jakartas-water-privatization.html.

largest private water suppliers,⁵³ Jakarta's water system will be transitioning to exclusive control by the city-owned water operator PAM Jaya at the end of 2023.⁵⁴ Therefore, to meet the demand for the 1.1 billion cubic meters of water the citizens of Jakarta require annually, the municipal government is now likely saddled with increasing access to the piped water system without recourse to private investment.

While cost estimates vary, according to a synthesis of results in reports by the soonto-be former private water suppliers for Jakarta, PAM Lyonaise Jaya and Aetra Air Jakarta, the achievement of complete access to piped drinking water would likely cost the city approximately USD \$389 million.55 While this figure would amount to roughly half of the Jakarta's yearly budget, it is comparable to the annual cost of USD \$400 million experienced by Indonesia resulting from land subsidence, land use change, and climate change in Jakarta.56 To achieve complete piped water access, PAM Jaya and the government must develop a "road map" to establish coherent plans on infrastructure development, financial arrangement, and human capital. Accompanying the establishment of clear objectives, the government, would in this scenario, also increase the enforcement regulations concerning groundwater extraction and well drilling. When paired with the increase supply of alternative water sources, strict regulations have been found

Decreasing Non-Revenue Water via Performance-Based Contracts

A complementary, though distinct, component of increasing access to piped water infrastructure, is decreasing non-revenue water (NRW). Defined as water that has been produced and subsequently lost before reaching the customer - due to leakage, meter inaccuracies, and other systematic failures – Jakarta's NRW rate of 45.7% far exceeds Indonesia's national average of 37%.58 Meaning in practice that, of Jakarta's total piped water supply equaling roughly 340 million cubic meters per year.59 an estimated 155 million cubic meters are lost annually. While decreasing NRW in isolation cannot eliminate groundwater extraction, it is an integral component of any municipal water system and has the potential, depending on the level of reduction, to greatly expand access to piped drinking water without recourse to large-scale structural change.

There is significant variance in the estimated cost for reducing NRW in Jakarta depending upon whether or not the private sector is involved. According to the current director of the publicly owned PAM Jaya, Priyatno Bambang Hernowo, to bring current NRW down from 47% to the industry standard of 25% would cost the government of Jakarta USD \$460 million (Rp 7 trillion). This cost estimate changes significantly, however, with the implementation of a public-private partnership aimed at reducing NRW. Specifically, it changes with the enactment of

to be highly effective in reducing rates of land subsidence. $^{\rm 57}$

⁵³ Privatized 20 years ago in the last years of the Suharto military dictatorship—when the former president awarded contracts to two joint ventures (one of which included his son's company) the Supreme Court ruling was a victory for activists who claimed that the companies failed to guarantee people's right to clean water.

⁵⁴ The Jakarta Post, "Coalition Opposing Jakarta Water Privatization Wins Appeal," The Jakarta Post, accessed March 24, 2023, https://www.thejakartapost. com/news/2017/10/10/coalition-opposingjakarta-water-privatization-wins-appeal.html.

⁵⁵ Budiyono et al., "River Flood Risk in Jakarta under Scenarios of Future Change," pg 789.

⁵⁶ Ibid.

⁵⁷ N. Phien-wej, P. H. Giao, and P. Nutalaya, "Land Subsidence in Bangkok, Thailand," *Engineering Geology* 82, no. 4 (February 2, 2006): 187–201, https://doi.org/10.1016/j.enggeo.2005.10.004.

⁵⁸ N. Ardhianie et al., "Jakarta Water Supply Provision Strategy Based on Supply and Demand Analysis," *H2Open Journal* 5, no. 2 (April 12, 2022): 221–33, https://doi.org/10.2166/h2oj.2022.076.

⁵⁹ Ardhianie et al.

⁶⁰ Petir Garda Bhwana, "PAM Jaya Aims to Suppress Water Pipe Leakage Down to 24% in 2023," Tempo, December 6, 2021, https://en.tempo.co/read/1536256/pam-jaya-aims-to-suppresswater-pipe-leakage-down-to-24-in-2023.

a performance-based contract system, where private providers are awarded contracts by the state owned water utility depending on their capacity to reduce NRW. Such performance based contracts have seen significant success in minimizing the overall cost of reducing NRW. For example, Ho Chi Minh City, in collaboration with the World Bank, was successfully able to reduce its NRW loss (comparable to that of Jakarta's at 40%) by half, equating to roughly 44 million cubic meters per year. 61 While such an effort would have cost approximately USD \$120 million via traditional means,62 through the implementation of performance-based contracts for water providers, Ho Chi Minh City was able to achieve its NRW reduction for the relatively low figure of USD \$15 million.63

An important caveat to implementation of performance-based water contracts in Jakarta is the public's aversion to privately run water infrastructure. In consideration of the objections likely to be raised concerning the return to public-private partnership, 64 the Jakartan government should, therefore, make concerted efforts to allow citizens to observe, collect information, and keep water service administrators publicly accountable. If it were able to so, studies show that foreign investments through public-private partnerships in the water sector have can be highly effective, provided that high levels of

public trust present.65 One viable avenue to increase public trust is the establishment of a municipal water observatory which would allow for community oversight of city water management. The Paris Water Observatory, for instance, requires that all acts, reports, and official proceedings related to water management must be submitted to the Observatory before they are considered by the Paris Council.66 While such a body would be unlikely to eliminate the legitimate skepticism Jakarta's residents hold for private water utilities (a distrust which ultimately has its roots in Indonesia's former colonial past⁶⁷), it has the potential to initiate the process of revaluation necessary to enable a sustainable and positive relationship between the city's residents and its water infrastructure providers.

ANALYSIS OF POLICY OPTIONS AND CONCLUSION

As assessed by the metrics proposed in the *Policy Goals* section, decreasing non-revenue water via performance-based contracts is this paper's final policy proposal. As can be seen in *Table 1* below, decreasing NRW either meets or partially meets all proposed policy objectives. While NRW reduction would not eliminate catastrophic flooding or land subsidence in Jakarta, unlike the NCICD plan (Great Garuda sea wall) or an attempt to transition to the total access of piped water immediately, it provides policymakers with a practical, relatively concrete blueprint to reduce Jakarta's overall disaster risk.

Because of the nature of the performancebased contracts—which utilize market-based incentives to reduce overall cost—when compared with the alternative policies, reducing NRW falls well within the margins

^{61 &}quot;Performance-Based Contracts for Non-Revenue Water Management," International Water Association, accessed March 25, 2023, https://iwa-network. org/projects/performance-based-contracts-fornon-revenue-water-market-development/.

⁶² The Jakarta Post, "How Asian Governments Can Reduce Physical and Commercial Water Losses," The Jakarta Post, accessed March 23, 2023, https:// www.thejakartapost.com/opinion/2022/08/28/ how-asian-governments-can-reduce-physicaland-commercial-water-losses.html.

⁶³ PUBLIC-PRIVATE-PARTNERSHIP LEGAL RESOURCE CENTER,, https://ppp.worldbank. org/public-private-partnership/library/case-studyperformance-based-contract-ho-chi-minh-city.

⁶⁴ The Jakarta Post, "People Take Showers in Front of Jakarta's City Hall Protesting Water Privatization," The Jakarta Post, accessed March 23, 2023, https:// www.thejakartapost.com/news/2018/03/22/ people-take-showers-in-front-of-jakartas-cityhall-protesting-water-privatization.html.

⁶⁵ Krisztina Pusok, "Public-Private Partnerships and Corruption in the Water and Sanitation Sectors in Developing Countries," *Political Research Quarterly* 69, no. 4 (2016): 678–91.

^{66 &}quot;Our Public Water Future | Transnational Institute," February 1, 2023, https://www.tni. org/en/publication/our-public-water-future.

⁶⁷ Rafael Martinez and Irna Nurlina Masron, "Jakarta: A City of Cities," *Cities* 106 (November 2020): 102868, https://doi.org/10.1016/j.cities.2020.102868.

	Project Efficiency	Financial Efficacy	Community Equity	Political Feasibility
SQ	/	-	-	/
Reinvigoration of Great Garuda Plan	+	-	/	-
Increasing Access to Piped Drinking Water	+	/	+	-
Decreasing Non-Revenue Water	/	+	/	/

Table 1: Policy Evaluation Matrix

Note: Does not meet policy goals (-), Partially meets policy goals (/), Meets policy goals (+)

of financial efficacy. This is especially true if the government chooses to pursue a partnership with the World Bank. Having successfully realized performance-based contracts for NRW reduction in cities across the globe, the World Bank has developed a considerable capacity to implement the policy in cost attentive manner. When compared with traditional methodologies, cities which partnered with the World Bank in implementing performance-based contracts saw their expenditures reduced between USD \$120-\$200 million.68

While the pursuance of NRW reduction would not be as efficient in reducing catastrophic flooding as the alternative policy solutions proposed, the policy nevertheless retains the capacity to greatly increase access to piped drinking water in Jakarta (thereby contributing to the reduction and eventual termination of land subsidence in the city). If the experience of similar southeast Asian cities such as Kuala Lumpur, Bangkok, and Ho Chi Minh City can be used as a guide, Jakarta would expect to save approximately 45 to 73 million cubic meters of water annually if it were to implement performance-based contracts to reduce NRW.69 Such savings would amount to reducing Jakarta's NRW rate from 47% to

between 35% and 24%.70 While decreasing NRW would likely reduce land subsidence, however, it would also require continuing the already fraught relationship between Jakarta's public water provider PAM Java and private water distributers. It therefore only partially meets the goal of community equity. To assuage the concerns of Jakarta's citizens who oppose water privatization, many of whom are residents of North Jakarta,71 the government should form an independent water observatory to make a space for citizens to observe, collect information, and keep water service administrators publicly accountable. Correspondingly, the policy only partially meets the goal of political feasibly. While political animus remains high regarding water privatization in Jakarta, with PAM Jaya's concession contracts expected to expire at the end of 2023, a major transformation in the public's perception of public-private partnership is now possible for the first time in 25 years. Most saliently, unlike the two other proposed policy solutions, the limited scale of NRW reduction measures does not require wholesale revolution of Jakarta's

⁶⁸ Bill Kingdom, Jemima Sy, and Gerhardus Soppe, The Use of Performance-Based Contracts for Nonrevenue Water Reduction (Washington, DC: World Bank, 2018), https://doi.org/10.1596/30433.

⁶⁹ Kingdom et al., 4.

⁷⁰ Author's calculations based on the International Benchmarking Network for Water and Sanitation Utilities (IBNET) database. See https://wbwaterdata.org/ibnet.

⁷¹ Emanuele Lobina, Vera Weghmann, and Marwa Marwa, "Water Justice Will Not Be Televised: Moral Advocacy and the Struggle for Transformative Remunicipalisation in Jakarta," Water Alternatives 12 (January 1, 2019): 725–48.

administrative infrastructure to be properly implemented.

With good reason Jakarta has garnered among its millions of residents, somewhat sardonically, the nickname of 'the Big Durian.'72 Encased by a thorny, intimidating, and bureaucratically deadlocked exterior, the city's potential is tied to its ability to adopt realistic, financially feasible solutions to its most pressing problems. While attempting to reduce non-revenue water lacks the inherent appeal of a sea wall in the form of the national bird or an unwavering commitment to achieve universal access to piped drinking water, it nevertheless contains a kernel of political honesty. That if Jakarta will one day grow to become the world's most populous city, it must first begin to acknowledge the multi-faceted complexity of the challenges it is facing. That is to say, in a city which has for more than two decades tried and failed to save itself with a single swing of the 'mega-project' machete, implementation performance-based contracts to reduce non-revenue water could initiate a kind of pattern. A series of modest yet nonetheless well-placed chops which, in their succession, may well crack open the 'King of Fruits.

⁷² Martinez and Masron, "Jakarta: A City of Cities," 9.



Mitigating Consequences Emerging from Polar Ice and Permafrost Melt for Arctic Indigenous Peoples

Rachel Hawley

ABSTRACT

The Arctic Circle (AC), in the northern hemisphere, is home to hundreds of thousands of Indigenous peoples, all of whom are sensitive to environmental changes, such as polar ice and permafrost melt. As the Earth is rapidly warming, polar ice and permafrost are melting at an alarming rate, causing irreparable harm to the Arctic Indigenous peoples' physical bodies and cultural livelihoods. This paper explores the connection between the local Indigenous peoples and the international community when it comes to the mitigation of the consequences emerging from polar ice and permafrost melt in the AC.

OVERVIEW, HISTORY, AND DEFINITION OF THE ISSUE:

The Arctic Circle (AC), located in the northern hemisphere, is home to approximately four million people, of which ten percent are Indigenous (appendix A). The Arctic Circle is warming more rapidly than any other region of the world and is sensitive to climate change. much of which is caused by human actions outside of the Arctic. Indigenous peoples are disproportionally affected by climate change, as they rely heavily on nature and the environment for their livelihoods. There are countless consequences of polar ice and permafrost melt for the Arctic Indigenous peoples that are intrinsically "connected to the Arctic ecosystem."1 Polar ice melt negatively affects Indigenous peoples' physical bodies and cultural livelihoods. While not all Indigenous peoples in the AC states experience consequences emerging from sea ice melt, permafrost is present in all states within the AC. The polar ice and permafrost melt, influenced by global warming, is due to human activity, which is causing extreme

Lynge, Aqqaluk. 2009. "Climate Change – a Challenge for the Arctic Indigenous Peoples – the Inuit Response." IOP Conference Series: Earth and Environmental Science, no. 8 (November). https://doi.org/10.1088/1755-1315/8/1/012011.

environmental degradation in the AC. As it turns out, polar ice and permafrost are not so permanent. Polar sea ice is melting at a rate of approximately thirteen percent per decade and in the past 30 years, permafrost, or as the World Wildlife Fund (WWF) refers to it, "the oldest and thickest ice in the Arctic." has declined by about 95 percent (appendices B & C).2 The concern emanates from the fact that if the Earth continues to warm at such an alarming rate, the Arctic could be free of polar ice and permafrost by 2040.3 As polar ice and permafrost melt, indigenous peoples of the Arctic are being forced to adapt to new environments. However, because they rely on ice for their physical and cultural climate-resiliency livelihoods. their less plausible the more that polar ice and permafrost melts. Indigenous peoples of the Arctic have been historically absent from international treaty negotiations,4 yet as the effects of climate change and polar ice melt continue to worsen, the indigenous peoples that are disproportionally affected have begun to fight back, and in recent years, have become a "formidable voice".5 This has occurred through the International Indigenous Climate Movement (IICM) that is comprised of indigenous peoples, committees, and councils that work together to make their voices heard within the international community.

There are many councils, committees, and groups that work in the Arctic, aside from the national governments, such as the Arctic Council, which is the leading body of the region, whose creation was an "important milestone enhancing cooperation in the circumpolar

2 Hancock, Lorin. n.d. "Six Ways Loss of Arctic Ice Impacts Everyone | Pages | WWF." World Wildlife Fund. Accessed April 4, 2023. https://www.worldwildlife.org/pages/six-ways-loss-of-arctic-ice-impacts- everyone#:~:text=Polar%20ice%20caps%20 are%20melting%20as%20global%20warming.

North."6 The Arctic Council is comprised of eight countries: Canada, the Kingdom of Denmark (Greenland), Iceland, Norway, Sweden, Finland, the Russian Federation, and the United States (Alaska). These states, except Iceland, have Indigenous peoples who are actively being affected by polar ice melt. There are many solutions, and perhaps there is no single solution to mitigating the human security consequences of polar ice melt in the Arctic, but the Indigenous peoples are relying on each other and the international community for assistance. Therefore, the question remains; what are the steps the international community can take to mitigate the disproportionate consequences of polar ice and permafrost melt for Arctic Indigenous peoples?

Solution One: Provide Sovereignty or Increased Autonomy to Indigenous Nations

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) specifically outlines the rights held by indigenous individuals and communities. Indigenous communities have "suffered from historic injustices as a result of, inter alia, their colonization and dispossession of their lands, territories and resources."7 This colonization has caused Indigenous peoples to lose their right to self-determination, which is a universal human right outlined in the Universal Declaration of Human Rights (UDHR) and the UNDRIP. Providing sovereignty to Indigenous nations will give these communities the opportunity to exercise self- determination. As Indigenous nations have leadership, infrastructure, and land, Indigenous nations are capable of self-governance. If national governments allowed these nations to become sovereign or increased their autonomy. Indigenous nations would be able to develop. Currently, Indigenous peoples in the Russian Federation, Canada, Greenland, Norway,

³ Hancock, Lorin, Loss of Arctic Ice, WWF

⁴ Powless, Ben. 2012. "An Indigenous Movement to Confront Climate Change." *Globalizations* 9 (3): 411–24. https://doi.org/10.1080/14747731.2012.680736.

⁵ Powless, Ben, 2012, Indigenous Movement to Confront Climate Change, 411-24.

⁶ The Arctic Council. n.d. "How We Work." Arctic Council. Accessed March 12, 2023. https://arctic-council.org/explore/work/.

⁷ United Nations. 2007. "United Nations Declaration on the Rights of Indigenous Peoples." *Human Rights Quarterly* 33 (3). https://doi.org/10.1353/hrq.2011.0040.

Sweden, Finland, and the United States do not have sovereignty. Sovereignty would provide an opportunity for Indigenous communities to begin decision-making processes independent of their state and allow for collaboration with other Indigenous communities without contending with their national governments.

Solution Two: Funding for Policy Changes

Current climate policies are faulty, and historically do not include the Arctic Indigenous perspectives. The Paris Climate Accords, signed in 2016, outlined guidelines for carbon emissions. However, if the AC "and everyone else, had followed the letter of those agreements, the planet would still have warmed 3.5 degrees Celsius."8 However, the people who live in the Arctic are generally not responsible for the pollution that is affecting them. States outside of the Arctic release most of the carbon emissions leading to major polar ice melting. Many climate policies do not include compliance and enforcement mechanisms, an omission which allows states. to continue behaviors that exacerbate global warming, and thus polar ice melt. As of now, climate focused reports, global conventions, and annual meetings may produce policies that address climate change, but generally do "not respond to these other, more pressing needs and wishes of Arctic peoples."9 This needs to change. Allocating funding for policy changes, specifically on climate-related topics in the Arctic needs to occur. Climate finance is often used for reducing emissions, yet there is still adequate funding needed for mitigation. Financial support generally comes from developed countries that are aiding developing countries: however, the countries with Arctic Indigenous peoples are living in developed national jurisdictions. Thus, the national governments and stakeholders should be taking Indigenous populations into consideration when financing climate policies. Mobilizing climate funding "should represent a progression beyond previous efforts." ¹⁰

Solution Three: Look to the Local Communities Affected by Polar Ice Melt

The local Indigenous communities in the Arctic are the experts on how polar ice melt is affecting them directly. The polar ice changes, influenced by climate change, "didn't just make life harder in practical terms. It also undercut the basis of the culture that had thrived for so many millennia."11 Ice melt can lead to severe food insecurity because Indigenous peoples often rely on ice for hunting and freezing of food. Since scientific inquiry into climate change in the Arctic is a rather new phenomenon, scientists often rely on the indigenous populations for knowledge and skills.¹² With the help of indigenous peoples, scientific research has grown, as "scientific descriptions of changes in the Arctic climate are often consistent with indigenous observations."13 Including the indigenous peoples in the scientific research needed for efficient policies is vital. Some involved in the IICM believe that national governments should be allowing the local communities to exercise control. To use Greenland as an example, it is a semi-autonomous state under the authority of Denmark. In 2009, Denmark passed the Greenland Self-Government Act which grants Greenlanders more control. This act allows Greenlanders to exercise selfdetermination under international law.14 This is a direct example, not of sovereignty, but of allowing local communities to exercise control. Moreover, the Indigenous communities should

- 11 Watt-Cloutier, Sheila. 2018. The Right to Be Cold
- 12 Arctic Council, and International Arctic Science Committee. 2005. Arctic Climate Impact Assessment. Cambridge England; New York: Cambridge University Press.
- 13 Arctic Council, International Arctic Science Committee, 2005. Arctic Climate Impact Assessment.
- 14 Bent Ole Gram Mortensen; Ulrike Barten, "The Greenland Self-Government Act: The Pitfall for the Inuit in Greenland to Remain an Indigenous People," Yearbook of Polar Law 8 (2016): 103-128

⁸ Watt-Cloutier, Sheila. 2018. The Right to Be Cold: One Woman's Fight to Protect the Arctic and Save the Planet from Climate Change. Minneapolis, Mn: University Of Minnesota Press.

⁹ Huntington, Henry P., Mark Carey, Charlene Apok, Bruce C. Forbes, Shari Fox, Lene K. Holm, Aitalina Ivanova, Jacob Jaypoody, George Noongwook, and Florian Stammler. 2019. "Climate Change in Context: Putting People First in the Arctic." Regional Environmental Change 19 (4): 1217–23. https://doi.org/10.1007/s10113-019-01478-8.

¹⁰ UNFCCC. 2022. "Introduction to Climate Finance." Unfccc.int. 2022. https://unfccc.int/ topics/introductionto- climate-finance.

be involved in the policy-making processes, and the international community needs to act on the policies produced before it is too late to mitigate the human security consequences in the Arctic.

Solution Four: Support and Fund Social Movements and Collaboration

Many Indigenous peoples involved in the IICM believe that non-governmental organizations (NGOs) and civil society organizations (CSOs) should 'support not thwart' Indigenous rights, including climate change. In an interview with Ben Powless, a climate justice activist involved in indigenous environmentalism, he made it clear that CSO and grassroots movements create long-term efforts, and thus long-term effects. Powless believes that there is "no one solution,"15 but by allowing local communities to exercise control, and by funding NGO and CSO collaboration, more long-term effects will take place. An example of collaboration is Defend the Sacred Alaska, an organization led by indigenous Alaskan peoples, who recognize the oppression of the Arctic natives and stand "with people across the globe" that share their values of indigenous knowledge guiding actions that protect the Arctic.16 Furthermore. if the international community followed the framework of consult, acknowledge and commit, long-term effects could take hold. By consulting the various committees and councils involved in solutions or ideas relating to the Arctic environment, the international community can ensure that indigenous voices are heard. Acknowledging the problem that polar ice melt is causing in the Arctic and acknowledging how it affects nearly every aspect of Indigenous peoples' livelihoods are among the first steps to mitigating the problems. Finally, committing to solutions made by consulting and acknowledging the Indigenous peoples, can help mitigate polar ice melt, and, thus, the human security consequences of polar ice melt.

Solution Five: Frame the Effects of Polar Ice Melt as a Human Rights Violation

Arctic Indigenous peoples were the first to use the human rights framework to worldwide confront the environmental problem. Many people involved in the IICM believe that consequences of polar ice melt could be resolved if governments begin to respect Indigenous peoples' human rights, which in turn could lead to national policy changes. The goal is for the UNDRIP to be recognized as international law. As stated in the UNDRIP, indigenous peoples "have the right to the conservation and protection of the environment" and that states shall provide mechanisms and "appropriate measures shall be taken to mitigate adverse environmental, economic, social, cultural or spiritual impact".¹⁷ Polar ice melt is affecting indigenous peoples' environment, which in turn impacts their economic, social, cultural, and spiritual lives and rights. By viewing the consequences of polar ice melt as a human rights violation, Indigenous peoples can legitimize the challenges they are facing as a result of environmental degradation. For the international community, reframing this issue as a human rights violation reaffirms the Paris Agreement, which recognizes the relationship between human rights and climate change in its preamble. Additionally, the Paris Agreement acknowledges the rights of Indigenous peoples and local communities, stating that parties to the agreement shall "respect, promote and consider"18 these populations when acting against climate change in their states.

Solution Six: Business as Usual

While doing nothing to mitigate the human security consequences of polar ice melt for the Indigenous peoples of the Arctic will exacerbate the problem, it certainly is an option. As of now, there are policies in place for climate change, such as mitigating carbon emissions, which lead to global warming, and

¹⁵ Ben Powless, interview by author, March 3, 2023

¹⁶ Defend The Sacred AK. "Defend the Sacred AK," n.d. https://www.defendthesacredalaska.org/.

¹⁷ United Nations. 2007a. "United Nations Declaration on the Rights of Indigenous Peoples." *Human Rights Ouarterly* 33 (3). https://doi.org/10.1353/hrq.2011.0040.

¹⁸ United Nations. 2015. "Paris Agreement." https:// unfccc.int/files/essential_background/convention/ application/pdf/english paris agreement.pdf.

thus polar ice melt. However, these policies are faulty. Many of these policies do not include compliance or enforcement mechanisms. which allows states whose carbon emissions are off the charts to continue the behavior. The Arctic Council works within the AC to combat consequences of climate change that affects Arctic peoples. However, the Arctic Council is currently stalled due to Russian involvement in the war in Ukraine. The Russian Federation is an integral member of the Arctic Council. So, while there is an organization working within the Arctic system, any programs assisting Indigenous peoples are paused. If the international community does nothing to mitigate climate change, more polar ice will melt, and therefore the livelihoods of Indigenous populations will suffer. But, nonetheless, it remains an option. This, of course, would require that the international community ignore the indigenous voices, and that the national governments of Arctic Indigenous peoples would have to ignore their human rights. By ignoring the plight of Indigenous peoples in the Arctic, the international community could put less money and time into climate change research. This would also allow for the states and situations responsible for carbon emissions to continue.

RECOMMENDED SOLUTION – 2, 3, 5:

The AC and Arctic Indigenous peoples are negatively impacted by polar ice melt, which has rapidly caused a myriad of problems, like food insecurity. Mitigating these consequences emerging from polar ice and permafrost melt should be of utmost importance to the international community. By funding climate efforts, looking to the local affected communities, and framing the problems as human rights violations, real change could be made. Realistically, all these solutions go hand in hand, however, many national governments are not willing to grant sovereignty to the Indigenous nations under their authority. Climate financing needs to progress toward mitigation and efficient policymaking. By signing the Paris Agreement, developed

states agreed to mobilize substantial funding to "address the pressing mitigation and adaptation needs of developing countries." All permanent members of the Arctic Council are developed nations, so these states should be contributing to climate-related efforts, especially since they have Indigenous peoples within their national jurisdictions that are struggling.

To create these climate policies, local Indigenous groups should be considered because they are the experts in how polar ice and permafrost melt is negatively affecting them. Allowing indigenous individuals, groups, and councils, like the Inuit Circumpolar Council (ICC) and the Alaskan Athabaskan Council (AAC) to speak on behalf of their people, when it comes to climate-related problems that are affecting their livelihoods, can effectively change how current climate policies are structured and how the international community responds. Overall, framing the effects of polar ice and permafrost melt as a human rights violation seems to be rather effective for the Arctic Indigenous peoples. who were the first to use this framework. While the UNDRIP and the UDHR protect the rights of Indigenous peoples, these declarations are not international law, and not all United Nations (UN) states have codified these frameworks into their national policies. The negative effects of polar ice and permafrost melt are human rights violations, as outlined by the UDHR and UNDRIP.

Polar ice and permafrost melt is causing irreparable harm to food chains, indigenous health, economies, and culture and language. Per the UDHR, all persons have the right to health and well-being.²⁰ Polar ice and permafrost melt is affecting indigenous health and well-being in numerous ways, which needs to be recognized by the international community. If the international community recognizes climate-related human rights

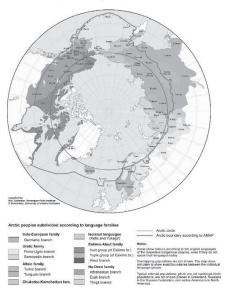
¹⁹ United Nations. 2022. "Climate Finance." United Nations. 2022. https://www.un.org/en/ climatechange/raising- ambition/climate-finance.

²⁰ United Nations. 1948. "Universal Declaration of Human Rights." United Nations. December 10, 1948. https://www.un.org/en/about-us/ universal-declaration-of-human-rights.

violations as such, the Arctic Indigenous peoples will benefit if policies are implemented that address the violations. This is where states should start. To effectively protect Indigenous peoples from climate-related human rights violations, there first must be implemented national policies, which requires funding and collaboration.

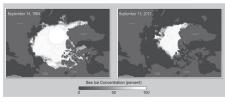
APPENDICES

Appendix A: Arctic Peoples Subdivided According to Language Families²¹



Appendix B: Arctic Sea Ice Cover, 1984 & 2012²²

Arctic Sea Ice Cover Reaches Record Low

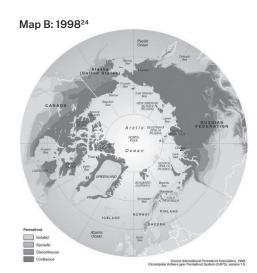


- 21 AHDR (Arctic Human Development Report) 2004. Akureyri: Stefansson Arctic Institute, p.44
- 22 National Oceanic and Atmospheric Association. 2012. "Arctic Sea Ice Cover Reaches Record Low | U.S. Climate Resilience Toolkit." Toolkit.climate. gov. 2012. https://toolkit.climate.gov/image/916.

Appendix C: Permafrost Coverage, 1998 & 2016

Map A: 2016²³





- 23 NASA. 2016. "Picturing Arctic Permafrost." Earthobservatory.nasa.gov. April 1, 2016. https://earthobservatory.nasa.gov/ images/87794/picturing-arctic-permafrost.
- 24 National Snow and Ice Data Center. n.d. "Frozen Ground & Permafrost." National Snow and Ice Data Center. https://nsidc.org/learn/partscryosphere/frozen-ground-permafrost.



On Improving European
Union Policies Towards
Humanitarian Crises

Rachel Feldman

ABSTRACT:

As the European Union (EU) seeks to strengthen its role as a global actor, it faces a complex challenge of maintaining an independent foreign policy while seeking a coherence in its external policies.1 This challenge is particularly acute within the realm of humanitarian aid2, where the EU must strike a balance between the need to provide support to those in need while also taking into consideration its broader objectives in foreign policy, striving for coherence and effectiveness in its external actions. Achieving this balance requires both a careful coordination and a clear understanding of the intersectionality between humanitarian aid and other realms. of EU foreign policies, crucial in ensuring the EU's credibility, effectiveness, and ethical standing in its external action. This paper provides solutions to aid in achieving this balance. It recommends Solutions 1 and 3 as the best approach to help achieve such.

BACKGROUND/OVERVIEW:

Managing humanitarian crises has grown further complex³ as they have increasingly become characterized by high variability in their origin, nature, and geographical diffusion, thus displaying ambiguous threats to the national and international security

- 1 Clara Portela and Kolja Raube, "'(In-)Coherence in EU Foreign Policy: Exploring Sources and Remedies," European Studies Association Biannual Convention, January 1, 2009, 1–26, https:// aei.pitt.edu/33122/1/portela_clara_(2).pdf.
- 2 Orbie, Jan, Van Elsuwege, and Bossuyt, "Humanitarian Aid as an Integral Part of the European Union's External Action: The Challenge of Reconciling Coherence and Independence."
- 3 Frederick M. Burkle Jr, "Lessons Learned from and Future Expectations of Complex Emergencies," *Topics in Review - Western Journal* of Medicine 172, no. 1 (January 1, 2000): 33–38, https://doi.org/10.1136/ewjm.172_1.33.

environment.⁴ Instituting preventative and coordinative policies with other actors to manage these crises has become continuously more crucial yet demanding. Though independent humanitarian aid has predominately not been threatened⁵, there remains difficulty in establishing worthwhile connection, communication, and collaboration with its other external policies due to institutional, political, and operational constraints and incompatibilities.

The EU is one of the largest humanitarian aid providers in the world.⁶ The European Commission's Humanitarian Aid and Civil Protection department (ECHO), responsible for the management of EU humanitarian assistance and civil protection operations,⁷ has functioned to provide humanitarian aid to over 120 million victims⁸ in over 110 countries worldwide since 1992.⁹ Based upon international principles of humanity, neutrality, impartiality, and independence,¹⁰ and as outlined in the European Consensus on Humanitarian Aid, ¹¹ the EU contributes needsbased humanitarian assistance impartially to

- 4 Francesca Pusterla, "Complex Humanitarian Crises in Uncertain Times: The Challenge for the European Union Humanitarian Aid Policy," St Antony's International Review - the Politics of Uncertainty 13, no. 1 (May 2017): 75–104, https://www.jstor.org/stable/26229123.
- 5 Orbie, Van Elsuwege, and Bossuyt, "Humanitarian Aid as an Integral Part of the E Uropean U Nion's External Action: The Challenge of Reconciling Coherence and Independence."
- 6 European Commission. "Management Plan - Annual Activity Reports 2019." Brussels: European Commission, 2020. Accessed April 4, 2023. https://commission.europa.eu/publications/annual-activity-reports-2019_en.
- 7 European Parliament and Amelia Pandurariu, "Humanitarian Aid," Fact Sheets on the European Union, 2022, accessed April 4, 2023, https://www.europarl.europa.eu/factsheets/en/sheet/164/humanitarian-aid.
- 8 European Union, "Key European Union Achievements and Tangible Benefits," 2021, accessed April 4, 2023, https://european-union.europa.eu/ priorities-and-actions/achievements_en.
- 9 Ibid.
- 10 European Commission and Cruz Roja Holandesa, "Humanitarian Principles," European Civil Protection and Humanitarian Aid Operations, accessed April 4, 2023, https://civil-protection-humanitarian-aid. ec.europa.eu/who/humanitarian-principles en.
- 11 Francesca Pusterla, *The European Union and Humanitarian Crises: Patterns of Intervention* (Ashgate Publishing, Ltd., 2015), 21-22.

those affected by natural disasters and manmade crises with primary regard to the most vulnerably affected. Though the EU states aid as being channeled impartially,¹² perspectives from the Global South find the organization to act in a self-interested pursuit. For instance, government and societies in Venezuela,¹³ the Philippines, and Zimbabwe have each accused the EU of using its aid programs to try and undermine their governments and interfere in their domestic affairs.¹⁴

Existing EU policy framework shows a clear commitment made by major donors and aid organizations that aim to improve the effectiveness and efficiency of humanitarian aid¹⁵ as well as improve its main financial tool for promoting its external policies.¹⁶ Though polices such as the Grand Bargain and the Neighborhood, Development, and International Cooperation Instrument (Global Europe) aim to make humanitarian aid more efficient, they stand too focused on short-term delivery.¹⁷ This poses a further challenge as less balance with other external policies,

- 12 European Civil Protection and Humanitarian Aid Operations. "Humanitarian Aid." European Commission. Accessed April 15, 2023. https://civil-protection-humanitarian-aid.en en
- 13 Raúl Stolk and Gabriela Mesones Rojo, "Venezuela: Perceptions of Europe Framed by Domestic Crises," The Southern Mirror: Reflections on Europe From the Global South 1 (June 29, 2022), https://carnegieeurope.eu/2022/06/29/venezuela-perceptions-of-europe-framed-by-domestic-crises-pub-87312.
- 14 Balfour, Rosa, Lizza Bomassi and Marta Martinelli.
 "The Southern Mirror: Reflections on Europe from
 the Global South" Carnegie Europe, accessed April 4,
 2023, https://carnegieendowment.org/files/Balfour
 Bomassi Martinelli Southern Mirror-v2.pdf
- 15 Jessica Alexander, "Renewing the Grand Bargain, Part 1: Old Goals, a New Path," The New Humanitarian, November 23, 2022, accessed April 4, 2023, https://www.thenewhumanitarian.org/analysis/2021/6/10/Grand-Bargain-international-aid-commitments-localisation.
- 16 Ken Godfrey, Richard Youngs, and Carnegie Endowment for International Peace, "Recent Trends in EU Democracy Support," *Toward a New EU Democracy Strategy*, September 1, 2019, 3–10, https://www.jstor.org/stable/resrep20974.5.
- 17 High-level Panel on Humanitarian Financing Report to the Secretary-General. "Too important to fail – addressing the humanitarian financing gap." Inter-Agency Standing Committee, January 2016. Accessed April 4, 2023. https://interagencystandingcommittee.org/system/files/hlp report too important to failgcoaddressing the humanitarian financing gap.pdf

namely development, leaves little focus towards preventative measures for future crises. With less focus on development aid, the EU is too often left with humanitarian aid as its response to humanitarian crises.

PROPOSED SOLUTIONS:

Solution One:

Establishing an Accountability
Mechanism in the European Court of
Auditors

Ensuring the political independence of humanitarian organizations is crucial for maintaining overall EU credibility impartiality in delivering aid as doing such ensures that aid is delivered solely based on need rather by political considerations. This can also help address the challenge of coherence in EU external action by enhancing the EU's reputation as a reliable humanitarian actor and by promoting more effective coordination among EU Member States. To do such, establishing accountability across all humanitarian aid in the EU requires a robust and independent oversight mechanism. Several institutions within the EU could potentially serve this role, but the European Court of Auditors (ECA) would serve as the most appropriate institution. As independent institution in the EU with the responsibility of auditing the EU's finances and ensuring accountability and transparency, 18 it has the necessary expertise, experience, and institutional independence to help undertake oversight of humanitarian aid. Though ECHO already stands as a primary actor for operation management, the addition of the ECA as an accountability mechanism would improve the efficiency and credibility of aid. The ECA has carried out numerous audits of humanitarian aid programs and policies over the years, ¹⁹ demonstrating the institution's familiarity with the sector and its ability to identify weaknesses and suggest improvements. Additionally, the ECA is well-respected both within the EU and internationally. ²⁰ This is especially important within the humanitarian sector, where trust and confidence of local populations and humanitarian organizations are critical for the effectiveness of aid delivery.

Solution Two:

Adopting Open Data Policies and Sharing Information on Humanitarian Aid Allocation, Delivery, and Impact

Through open data policies and sharing information on humanitarian aid allocation. delivery, and impact, the EU can strike a balance between assisting those in need and its broader foreign policy objectives. Open data policies consist of raw data that is accessible. reusable, machine readable, and licensed permissively.21 Enacting such has shown to maximize the benefits received from obtaining datasets, according to medical humanitarian organizations.²² Such benefits would allow the EU to be more transparent about the allocation and delivery of humanitarian aid, which would improve accountability and reduce the risk of corruption or mismanagement. Further, sharing data on humanitarian aid allocation and delivery would enable the EU to coordinate more effectively with other humanitarian

¹⁸ European Union, "European Court of Auditors (ECA): EU Institution," accessed April 4, 2023, https://european-union.europa.eu/institutions-and-bodies-profiles/eca_en.

¹⁹ European Court of Auditors, "2021 EU audit in brief – Introducing the 2021 annual reports of the European Court of Auditors," Luxembourg: European Court of Auditors, 2021, Accessed April 4, 2023. https://www.eca.europa.eu/Lists/ECADocuments/auditinbrief-2021/auditinbrief-2021 EN.pdf

²⁰ Ronnie Downes et al., "Budgeting and Performance in the European Union A Review in the Context of EU Budget Focused on Results," OECD Journal on Budgeting 2017, no. 1 (2015), https:// www.oecd.org/gov/budgeting/budgeting-andperformance-in-the-eu-oecd-review.pdf.

²¹ European Commission, "Open Data Policy," Joinup, March 17, 2016, accessed April 4, 2023, https://joinup.ec.europa_ceu_fdr8_fOpenDataPolicy.

²² Karunakara, Unni. "Data Sharing in a Humanitarian Organization: The Experience of Médecins Sans Frontières." PLOS Medicine 10, no. 12 (December 10, 2013). https://doi.org/10.1371/journal.pmed.1001562.

organizations and governments,²³ helping to avoid duplication of efforts and ensure that aid is delivered to those who need it most. Access to data on the impact of humanitarian aid would allow the EU to make better-informed decisions on how to allocate resources and prioritize interventions²⁴, ensuring that aid has the greatest possible impact. Additionally, sharing data on humanitarian aid could also help the EU to build stronger partnerships with other donors and recipient countries, enabling the EU to leverage its resources more effectively and improve the overall coherence and effectiveness of its external actions.

Solution Three:

Prioritizing and Improving the Coordination of Complementary Policies Between Humanitarian and Development Actors

The EU's coordination of humanitarian policy with development policy is essential as it enables the EU to address humanitarian crises in a comprehensive and sustainable manner. In the case of natural disasters, conflicts, or epidemics, humanitarian aid is usually provided as a short-term solution.²⁵ Differently, development aid aims at long-term improvements in health and education, as well as economic growth.²⁶ Through coordination of the two, the EU can offer immediate aid to meet the needs of crisis-affected populations and address the longer-term developmental

- 23 OECD, "DAC Guidelines and References Series
 Harmonizing Donor Practices for Effective Aid
 Delivery," February 2003, accessed April 4, 2023.
 https://www.oecd.org/dac/effectiveness/20896122.pdf.
- 24 Feinstein International Center, ACAPS, and Tufts University, "The Use of Evidence in Humanitarian Decision Making: Strengthening the Humanity and Dignity of People in Crisis through Knowledge and Practice," ACAPS Operational Learning Paper, January 2013, 7, 31, https://fic.tufts.edu/assets/TUFTS 1306 ACAPS 3 online.pdf.
- 25 Krish W. Ramadurai and Sujata K. Bhatia, "The Humanitarian Relief Paradigm," *SpringerBriefs in Bioengineering*, January 1, 2019, Springer Link, https://doi.org/10.1007/978-3-030-03285-2 1.
- 26 Kharas, Homi, Noam Unger, Jane Nelson, Samuel A. Worthington, Tony Pipa, InterAction, Kemal Dervis and Sarah Puritz Milsom, and Margaret L. Taylor. 2010. "Making Development Aid More Effective." The 2010 Brookings Blum Roundtable Policy Briefs. 1-64. https://www.brookings.edu/wpcontent/uploads/2016/06/09_development_aid.pdf

needs of partner countries, helping to grow relations and promote stability objective of the EU's foreign policy.²⁷ Further, coordinating these two policies can help the EU address the root causes of crises, such as poverty, inequality, and lack of access to basic healthcare services like healthcare and education. By addressing these underlying issues, the EU can help to prevent crises from occurring or escalating in the future, working in line with the EU's objective of promoting sustainable development and addressing the root causes of poverty and inequality.²⁸ through humanitarian-development policy cooperation, the EU can ensure its aid efforts are aligned with broader foreign policy objectives, such as the promotion of democracy and human rights. This alignment can help to promote the EU's values and interests in partner countries, while also ensuring that its aid efforts are effective and efficient.

Solution Four:

Reevaluating Global Europe to Prioritize a Coordinated and Integrated Approach at Funding and Supporting Humanitarian Aid Efforts

To help transform the EU and its joint priorities with other countries that support the EU's geopolitical agenda, implement UN Sustainable Development Goals, and address

https://adelphi.de/en/system/files/mediathek/bilder/A%20Foreign%20Policy%20Perspective%20 On%20The%20Sustainable%20Development%20 Goals%20-%20Brief%20-%20adelphi.pdf

²⁷ European Union, "Foreign and Security Policy,"
European Union, accessed April 4, 2023. <a href="https://european-union.europa.eu/priorities-and-actions/actions-topic/foreign-and-security-policy_en#:~:text=European%20foreign%20and%20 security%20policy&text=preserve%20peace.for%20 human%20rights%20%26%20fundamental%20freedoms

²⁸ Carius, Alexander, Daria Ivleva, Bejamin Pohl, Lukas Rüttinger, Stella Schaller, Dennis Tänzler, and Janani Vivekananda. 2018. "A Foreign Policy Perspective on the SDGs." Climate Diplomacy Brief. Adelphi University.

global consequences of crises,²⁹ a reevaluation of Global Europe would help the EU prioritize its humanitarian aid efforts and ensure that they are complementary to its broader foreign policy objectives, rather than working at crosspurposes. A coordinated, integrated approach can help the EU to maximize the impact of aid efforts, reducing the risk of duplication of efforts and increasing the effectiveness of its programs. Further, reevaluation of Global Europe and establishing a coordinated and integrated approach towards humanitarian aid funding and support would help the EU take a more holistic view of aid30 to help identify and target the underlying drivers of crises and conflicts such as poverty, inequality, and political instability. This can help to address the root causes of such issues, promoting greater resilience and reducing the need for humanitarian aid in the long term. Moreover, a coordinated and integrated approach can assist the EU to better engage with local communities and civil society organizations, promoting greater ownership and participation in the delivery of aid. This can enhance the sustainability, effectiveness, and coherence of EU's humanitarian aid programs. Last, a reevaluation can help to promote greater transparency and accountability in the EU's efforts, reducing the risk of corruption or mismanagement. This can further improve the overall effectiveness of the EU's aid programs, ultimately enhancing the EU's credibility and reputation as a reliable donor and partner in the global humanitarian community.

RECOMMENDED SOLUTION:

Multiple approaches are necessary to tackle the EU's complex challenge of strengthening itself as a global actor while maintaining an independent foreign policy and seeking coherence in its external policies. To achieve this balance, it is essential for a careful coordination and clear understanding of the intersectionality between humanitarian aid and other realms of EU foreign policy, crucial in ensuring the EU's credibility, effectiveness, and ethnical standing in its external action. Though current policy frameworks such as the Grand Bargain and Global Europe represent two significant commitments by the EU to improve efficiency and effectiveness of its foreign policies, there still exists little regard in ensuring the independence and neutrality of humanitarian aid and its coherence between broader foreign policy goals. All proposed solutions require some degree of balance between providing independent support to those affected while taking into consideration broader foreign policy objectives that increase coherence in EU external actions. However, a combination of Solution 1 and Solution 3 will show the best results.

The implementation of the ECA as an accountability mechanism of humanitarian organizations will tackle the challenge of more immediate issues. The ECA will ensure aid is delivered on a basis of need, rather by political considerations. With already existing skills to conduct oversight of humanitarian aid, the ECA will ensure resources are being used and allocated properly. With a strong track record of auditing humanitarian aid efforts in the past in addition to its wellrespected status both within the EU and internationally, credibility and legitimacy of aid efforts will enhance. This is in the best interest as within the humanitarian sector. trust and confidence of local populations and humanitarian organizations are key in ensuring the effectiveness of aid delivery. The ECA, compounded with prioritizing and improving complementary policies between humanitarian and development actors, will further overall stability, a key objective of the EU's foreign policy.

²⁹ European Union External Action, "The New 'NDICI – Global Europe' (2021-2027)." The Diplomatic Service of the European Union, 2022. Accessed April 4, 2023. https://www.eeas.europa.eu/eeas/new-%E2%80%99-2021-2027-en#~:text=lt%20is%20transforming%20the%20EU's,war%20of%20aggression%20against%20Ukraine

³⁰ Petr Pospišil, "European Union External and Internal Humanitarian Aid," European Food and Feed Law Review 14, no. 6 (2017): 522–27, https://www.jstor.org/stable/26900860.

It is proposed that these two solutions be implemented by the EU to effectively establish overall coherence and effectiveness in its external actions through a balance of the delivery of independent needs-based humanitarian assistance to those most affected by crises with consideration towards broader foreign policy objectives. The immediate needs for establishing credibility and impartiality in delivering humanitarian aid are solved with the ECA as a mechanism ensuring accountability. This furthered with the prioritization and improvement of the coordination of complementary humanitariandevelopment aid will ensure that EU foreign policy objectives are not working at crosspurposes. Intersectional cooperation and accountability in foreign policy objectives provided by Solutions 1 and 3 is crucial for the future of EU humanitarian aid efficiency and effectiveness.



Protecting Matera, Italy from over-tourism

Shae Mills

ABSTRACT

After decades of abandonment, local revitalization and activism efforts lead to the designation of Matera, Italy as a UNESCO Site. World Heritage Infrastructure development, the influx of business operations, and sustained media coverage resulted in an increased demand for tourism, which peaked in 2019 when Matera saw record-breaking numbers of tourists upon its selection as the European Capital of Culture. Along with economic benefits came the prevalence of issues caused by over-tourism, such as: structural and cultural degradation, and a necessity for sustainable management solutions.

OVERVIEW

Since obtaining UNESCO World Heritage Site status in 1993,1 the old city of Matera, Italy has faced increasing difficulty combatting over-tourism. Matera is a unique and charming city in the Basilicata region of Southern Italy, which has been host to countless historically significant events. The third oldest continually inhabited city in the world, Matera has been home to the troglodytes - cave dwellers - of the Paleolithic and modern civilizations.2 It is believed that nearly 15,000 years ago, troglodytes carved the city of Matera from stone, creating neighborhoods complete with houses, churches, monasteries, and gathering places.3 The two distinct neighborhoods are known as the Sassi. Inside the rupestrian carved from stone - churches are elaborate

UNESCO World Heritage Centre, "The Sassi and the Park of the Rupestrian Churches of Matera," UNESCO World Heritage Centre, accessed March 29, 2023, https://whc.unesco.org/en/list/670/.

^{2 &}quot;Visit Matera >> Discovery Matera," DISCOVERY MATERA, May 10, 2019, https://www.discoverymatera.it/en/visita-matera/#:~:text=Matera%20 is%20an%20ancient%20city,Sassi%20 tell%20of%20ancient%20settlements.

³ UNESCO World Heritage Centre, "The Sassi and the Park of the Rupestrian Churches of Matera," UNESCO World Heritage Centre, accessed March 29, 2023, https://whc.unesco.org/en/list/670/.

frescoes; most depicting religious scenes. Popular sites are scattered among the terraced neighborhoods and across the plateau, attracting tourists from around the world.

In the 1950s, Matera's population was relocated to the new city, above the ancient ravine, by the Italian government due to a surge in malaria cases.4 From this point on, the city practically fell off the map and sat in abandonment and squalor.5 However, following years of political activism, lobbying, and volunteer restoration on behalf of young locals, the UNESCO designation of the Sassi and the Park of Rupestrian Churches as a World Heritage Site put the forgotten city back on the map.6 Slowly, locals and some foreigners moved back to the old city in search of economic opportunity:7 starting boutique cave hotels, opening unique restaurants, and organizing guided tours of the protected site.8 It was known that efforts for preservation would be necessary as Matera quickly drew in the attention of tourists.

Matera was selected by the European Commission to be the European Capital of Culture in 2019,9 leading to a record-

- 4 Smithsonian Magazine, "How Matera Went from Ancient Civilization to Slum to a Hidden Gem," Smithsonian.com, February 1, 2014, https://www. smithsonianmag.com/travel/mater-went-fromancient-civilization-slum-hidden-gem-180949445/.
- 5 Favero, Luca, and Ilaria Malisan. "The Effect of Being a European Capital of Culture: Evidence from Matera." SSRN Electronic Journal, October 25, 2021. https://doi.org/10.2139/ssrn.3946245.
- 6 Smithsonian Magazine, "How Matera Went from Ancient Civilization to Slum to a Hidden Gem," Smithsonian.com, February 1, 2014, https://www.smithsonianmag.com/travel/mater-went-from-ancient-civilization-slum-hidden-gem-180949445/.
- 7 TOXEY, ANNE. "Reinventing the Cave: Competing Images, Interpretations, and Representations of Matera, Italy." *Traditional Dwellings and Settlements Review* 15, no. 2 (2004): 61–78. http://www.jstor.org/stable/41758044.
- 8 European Commission, Directorate-General for Education, Youth, Sport and Culture, Pavlova, A., Mobilio, L., Goffredo, S., et al. "Ex-post evaluation of the 2019 European capitals of culture: executive summary." *Publications Office*. https://data.europa.eu/doi/10.2766/7912
- 9 Angela Pepe, "The European Capital of Culture: A Tool for Promoting Human Capital. Matera 2019 Case Study," RIVISTA DI STUDI SULLA SOSTENIBILITA', no. 1 (2017): pp. 47-69, https://doi.org/10.3280/riss2017-001005.

breaking one million tourists that year.10 This nearly instantaneous popularity has created opportunities and threats to the preservation of the city. On one hand, Europe has a large market for tourism and Matera fills a unique void that would be challenging to replicate elsewhere in the region, but on the other hand, time hasn't necessarily allowed for the rapid development of proper and sustainable tourism management in this World Heritage Site. Matera is facing an increased tourist demand due to the influx of media coverage since 2014. However, most of this demand comes from the regional Italian market, which accounts for roughly 73% of Matera's yearly visitors.11

The defining characteristic of Matera is the intricacy of the stonework. Passageways fan out from the historic center and traverse the hillside in narrow, winding footpaths. When swathes of tourists march through passageways, the paths become congested and prone to erosion, while infrastructure struggles to support large numbers of people. Similarly, rupestrian frescoes have seen significant damage on behalf of tourists, who often physically touch the paintings. Many of these frescoes have already disappeared almost entirely, while others are nearly unrecognizable. Although efforts have been made to restore the frescoes, preservationists simply cannot keep up with the rapid damage that has been caused by tourism.

POSSIBLE SOLUTIONS

Solution 1: Internet-of-things (IoT) Monitoring

IoT monitoring is an approach that utilizes remote sensors, which act as data access

- 10 Tiffany Chan, "Resurrected Matera Faces Overtourism," GSTC, November 10, 2021, https://www.gstcouncil.org/resurrected-matera-faces-overtourism/#:~:text="Where%20 are%20the%20benefits%3F";one%20 million%20visitors%20in%202019.
- 11 Ivona, Antonietta, Antonella Rinella, and Francesca Rinella. 2019. "Glocal Tourism and Resilient Cities: The Case of Matera "European Capital of Culture 2019" Sustainability 11, no. 15: 4118. https://doi.org/10.3390/su11154118

points that can be analyzed by IT professionals and stored in a data cloud.12 Remote sensing offers a large variety of technological methods for preserving historic cities and monuments,13 depending on the types of threats present, geographical terrain, and budget. Generally speaking, monitoring is a rather affordable method of continued preservation and is already being successfully utilized in other tourist sites and museums.14 However, sensors are more effective in smaller spaces and, as such, are typically utilized in chambers or rooms where temperature changes need to be monitored or at various high-traffic locations.

In this case, IoT monitoring would be most effective if utilized in churches and monasteries to monitor temperature changes, which can have negative impacts on frescoes. Is Human activity and presence near frescoes can lead to increased temperature and humidity, which will lead to the rapid degradation of frescoes. With an IoT monitoring approach, destination management teams can use data to make decisions on whether or not to allow tourists to visit a site. This form of microclimatic fresco conservation is being utilized at the Crypt of the Original Sin - a thousand-year-old biblical fresco. Is Sensors monitor surface temperatures to analyze changes in

temperature, humidity, and condensation.¹⁷ Data suggests that this sensing initiative has been successful so far, but it is important to note that the installation of sensors at all of Matera's high-traffic sites would be a considerable, yet worthwhile investment.

Solution 2: Timed Entry and Tourist Caps

Popular sites in Matera, such as the Crypt of the Original Sin, currently operate on a reservation system. Visitors to the Crypt of the Original Sin are only allowed entry in groups of ten and reservations must be made in advance as a preventative measure. These measures could be implemented at other high-traffic sites in Matera, although it would take massive coordination efforts. Thankfully, timed entry systems have been successfully utilized around the world for a long time.

Many U.S. National Parks currently require visitors to have permits in an effort to protect vulnerable areas. For example, those who wish to raft the Colorado River must apply for a permit up to two months in advance, ¹⁹ and those hiking the Half Dome in Yosemite National Park must be selected via a lottery. ²⁰ Imposing visitation caps has a similar effect. UNESCO recently placed a visitation cap on Machu Picchu, ²¹ allowing only 4,500 visitors to purchase entry tickets each day. ²²

- 12 DataFlair Team, "How IOT Works 4 Main Components of IOT System," DataFlair, May 9, 2021, https://data-flair.training/blogs/how-iot-works/.
- 13 Tommaso Addabbo et al., "A City-Scale IOT Architecture for Monumental Structures Monitoring," *Measurement* 131 (2019): pp. 349-357, https://doi.org/10.1016/j.measurement.2018.08.058.
- 14 Marco Gribaudo, Mauro Iacono, and Alexander H. Levis, "An IOT-Based Monitoring Approach for Cultural Heritage Sites: The Matera Case," Concurrency and Computation: Practice and Experience 29, no. 11 (2017), https://doi.org/10.1002/cpe.4153.
- 15 Zarzo, Manuel, Angel Fernández-Navajas, and Fernando-Juan García-Diego. 2011. "Long-Term Monitoring of Fresco Paintings in the Cathedral of Valencia (Spain) Through Humidity and Temperature Sensors in Various Locations for Preventive Conservation" Sensors 11, no. 9: 8685-8710. https://doi.org/10.3390/s110908685
- 16 M. Sileo et al., "Multi-Scale Monitoring of Rupestrian Heritage: Methodological Approach and Application to a Case Study," *International Journal of Architectural Heritage* 16, no. 3 (November 2020): pp. 469-484, https://doi.org/10.1080/15583058.2020.1799261.

- 17 Sileo, M., F. T. Gizzi, A. Donvito, L. D'Andrea, R. Lasaponara, and N. Masini. "MULTI-SCALE AND MULTI-SENSOR MONITORING: PRELIMINARY RESULTS FROM THE "CRYPT OF ORIGINAL SIN", MATERA (SOUTHERN ITALY)." 17.
- 18 La Cripta del Peccato Originale. Fondazione Zétema - Matera, 2023. https://www. criptadelpeccatooriginale.it/index.php?lang=en.
- 19 "Ruby Horsethief Canyon Permits, Mcinnis Canyons National Conservation Area," Recreation.gov, accessed May 11, 2023, https:// www.recreation.gov/permits/74466.
- 20 "Half Dome Permits for Day Hikers," National Parks Service, accessed May 11, 2023, https:// www.nps.gov/yose/planyourvisit/hdpermits.htm.
- 21 Zvi Schwartz, William Stewart, and Erik A. Backlund, "Visitation at Capacity-Constrained Tourism Destinations: Exploring Revenue Management at a National Park," *Tourism Management* 33, no. 3 (2012): 500–508, https://doi.org/10.1016/j.tourman.2011.05.008.
- 22 "New Rules for Machu Picchu Visit in 2023," Inca Trail Machu: Best Machu Picchu Tour Company, accessed May 11, 2023, https://www.incatrailmachu. com/en/travel-blog/machu-picchu-new-rules-2019.

The implementation of permit purchase requirements and visitor caps addresses the environmental, social, and economic impacts of tourism; all three of which constitute sustainable tourism according to the United Nations World Tourism Organization.²³

Utilizing such restrictions would not come without challenges. Matera's destination management team would need to find the proper balance between an increased tourist demand and restricted supply. Ultimately, finding this balance could maximize potential profits, which could then be allocated toward funding for restoration projects.

Solution 3: Measuring Tourism Sustainability with Big Data

According to the Global Sustainable Tourism Council (GSTC), sustainable tourism must take into account social, environmental, and economic needs while monitoring visitors, the tourism industry itself, the community, and the surrounding environment.24 Big data refers to the complex, massive amount of data that can be obtained through sensors, search engines, cell signals, social media, and even GPS and GIS analyses.²⁵ This approach has become increasingly common and readily accessible in destination management research and analytics. Data collected can be analyzed by destination management teams to visualize activity and forecast interest in a particular destination.26

Organizations and the tourism and hospitality sector are turning to big data to monitor changes in tourist desires following the COVID-19 pandemic. Data mining and the surveillance of keywords in social media and

- 23 "World Tourism Organization: Sustainable Development," UNWTO, accessed May 11, 2023, https://www.unwto.org/sustainable-development.
- 24 "GSTC Mission and Impacts." GSTC. Global Sustainable Tourism Council, February 6, 2023. https://www.gstcouncil.org/about/gstc-impact/.
- 25 Andrew McAfee and Erik Brynjolfsson, "Big Data: The Management Revolution," Harvard Business Review, October 8, 2014, https://hbr. org/2012/10/big-data-the-management-revolution.
- 26 Xu, Feifei, Nicholas Nash, and Lorraine Whitmarsh. "Big Data or Small Data? A Methodological Review of Sustainable Tourism." *Journal of Sustainable Tourism* 28, no. 2 (2019): 144–63. https://doi. org/10.1080/09669582.2019.1631318.

text messaging apps have successfully aided Korea in identifying an increased preference for domestic travel.²⁷ Theoretically, this technology - called FIWARE - could be used anywhere, including Matera, to predict tourist activity.

Implementing a large-scale big data monitoring system would be time-consuming and costly. Matera would need to further develop a data management server to record measurements from their current network of sensors, and store information gathered through data mining, which would need to be accessible via a user application.²⁸ Measuring tourist impact in Matera through the utilization of big data would require major coordination efforts.

Solution 4: 3D Modeling and ICT Systems for Virtual Tourism

A simple way to prevent the physical degradation caused by tourism is to develop and promote virtual tourism. The development of such a platform would also be beneficial in determining the necessary frequency of maintenance, building precise 3D models caves. churches. monasteries. and other key sites in Matera, and estimating maintenance costs.29 Using sensors and 3D mapping, a virtual model of Matera can be constructed and analyzed for the current severity of degradation, which can in turn contribute to increased funding for conservation and restoration costs.

Many historic sites have developed virtual tours to offset the negative effects of tourism. For example, Singapore's Tampines Chinese Temple - a UNESCO Intangible Cultural Heritage Site - relies heavily on the market for virtual tourism in an effort to protect the

²⁷ Sung, Yun-A, Kyung-Won Kim, and Hee-Ju Kwon. 2021. "Big Data Analysis of Korean Travelers' Behavior in the Post-COVID-19 Era" Sustainability 13, no. 1: 310. https://doi.org/10.3390/su13010310

²⁸ Lerario, Antonella, and Antonietta Varasano. 2020. "An IoT Smart Infrastructure for S. Domenico Church in Matera's "Sassi": A Multiscale Perspective to Built Heritage Conservation" Sustainability 12, no. 16: 6553. https://doi.org/10.3390/sul2166553

²⁹ V. Echarri and C.A Brebbia, Heritage Architecture Studies (WIT Press, 2018).

physical temple.³⁰ The temple was mapped as described above and an accessible user interface was developed to make the virtual tour interactive. Virtual visitors can read, listen to stories, and experience the site as if they were there.

Currently, virtual tour videos exist for Matera, which visitors can access via platforms like YouTube. However, these are not as interactive as virtual tours that have been implemented at other sites around the world. Through the use of 3D mapping techniques and already present sensors, an interactive user interface could be generated for Matera as well.

Solution 5: Encouraging Formal Guided Visits

Visitors to any given site may choose to visit in the afternoon, typically during peak operating hours, meaning that the potential exists for an overwhelming number of visitors to be present at the same time. Without guidance and, possibly, without knowledge of the site itself, tourists may knowingly or unknowingly disrupt the environment, structural integrity, or tangible artifacts of a destination. This is especially common in Matera, which is why destination management teams must develop a framework for guided tours.

Guided tours at various intervals throughout the day allow for efficient and supervised visits. Tour guides can ensure appropriate tourist behavior, all while offering a culturally enriching experience for tourists. Organizing tours throughout the day also favors spacial awareness because, ideally, tourists will be spread out in an effort to avoid congestion.³¹

With similarly humble beginnings and a tourism revival at the turn of the century, Pompeii is a shining example of what Matera could be. Visitors to Pompeii cannot enter without a ticket, which must be purchased

ahead of time or through an official tour guide. ³² The lack of signs and placards throughout Pompeii makes it nearly impossible for tourists to have a meaningful visit on their own, encouraging them to explore with an official guide. ³³ There are countless locally trained guides available to tourists, which minimizes the negative effects of human activity on the destination while providing visitors with an immersive and authentic experience. With further development, the same can be done in Matera.

Solution 6: Replicate the Crypt of the Original Sin

Some of the main attractions of Matera are the rupestrian frescoes, such as the Crypt of the Original Sin. Although visitors are only allowed inside during scheduled time slots, the biggest threat to this fresco is the physical presenceoftourists. However, the best method to preserve and restore this biblical fresco is to replicate it elsewhere - allowing tourists to enter the replica. This process would be nearly identical to the replication of the Lascaux Cave paintings in western France.³⁴

A replication of the Crypt of the Original Sin will likely require approval from UNESCO and will be met with mixed feelings from locals and tourists alike.³⁵ Some believe that replicas are necessary to protect the heritage of a site, while others believe it subtracts from the overall experience. In order to maintain stable profits, it will be necessary for Matera's destination management team to properly market this replicated experience by stimulating tourists' five senses. In order for a replica to be

³⁰ Osten Bang Mah et al., "Generating a Virtual Tour for the Preservation of the (in)Tangible Cultural Heritage of Tampines Chinese Temple in Singapore," *Journal of Cultural Heritage* 39 (2019): pp. 202-211, https://doi.org/10.1016/j.culher.2019.04.004.

³¹ Harald Pechlaner, Elisa Innerhofer, and Greta Erschbamer, *Overtourism: Tourism Management and Solutions* (Abingdon (Oxon): Routledge, 2022).

³² Crissy, "Do I Need to Buy Pompeii Tickets in Advance?," Pompeii Tours, October 11, 2022, https://www.pompeiitours.it/blog/do-i-need-to-buy-pompeii-tickets-in-advance/#:~:text=To%20maintain%20the%20city%20as,free%20entry%20for%20all%20visitors.

³³ Brandon Shaw, "How to Visit Pompeii in 2023: Tickets, Hours, Tours, and More," The Tour Guy, March 16, 2023, https://thetourguy.com/travel-blog/italy/pompeii-amalfi-coast/pompeii/visiting-pompeii-everything-you-need-to-know/.

³⁴ Chard W. Butler and Chel Dodds, Overtourism: Issues, Realities and Solutions (Berlin: de Gruyter, 2019), 34.

³⁵ Velvet Nelson, An Introduction to the Geography of Tourism (Lanham: Rowman & Littlefield Publishers, Inc., 2013), 265.

successful, it must generate an authentic and credible experience.³⁶

This solution would not solve all of Matera's challenges with over-tourism, but it will be beneficial in protecting the destination's most popular rupestrian fresco. Redistributing visitors to a replica site would also decrease the number of people in the UNESCO-protected site, adding to the prevention of tourist congestion.

RECOMMENDED APPROACH

There is not one sole solution that will address all impacts of over-tourism, especially in a destination as expansive and unique as Matera, Italy. That being said, Solutions 1 and 5 would be most efficient and have an immediate effect on tourist impact in Matera. The proposed solution includes the utilization of IoT monitoring and installation of remote sensing devices where applicable-in monasteries, rupestrian frescoes, and other sites of cultural significance - and the encouragement of formal guided visits.

Remote sensors should be installed in the rupestrian churches to protect frescoes from further damage. The hypogeous stone foundation of the cave walls and floor create an insulated airspace that protects the walls from external forces, such as heat and humidity.³⁷ However, frescoes on these cave walls are susceptible to internal forces, such as the increased humidity and temperature that comes along with the presence of people. Installing sensors - for example, the EnergyPlus software - will allow the destination management team to monitor temperature and humidity changes and make adjustments to the allotted number

of visitors.³⁸ Furthermore, IT professionals should be enlisted to monitor data and develop infrastructure for cloud storage in order to ensure timely measures are taken to preserve infrastructure.

Guided visits are beneficial from nearly every perspective. Hiring local tour guides is beneficial to the local economy, visitors will learn more about Matera's history from someone who knows it well, and the organization of guided visits will alleviate congestion in passageways and caves. Regarding sustainability, it has been found that tour guide performance has direct effectsonenhancingvisitorsustainablebehavior.39 Matera should look to similar destinations, like Pompeii, for guidance. A destination management team with a sole focus on Matera should develop a framework for employing and training official guides, enforce operating hours by requiring visitors to purchase tickets and encourage tourists to book through local guides and travel agencies.

Matera's history is one that is important to human civilization and, as such, should be protected at all costs. Implementing the recommended solutions will not only allow for the preservation of Matera's many caves, houses, churches, and monasteries but also the restoration of ancient rupestrian frescoes. Through the utilization of IoT monitoring and structured tour operations, tourists should be able to see Matera's beauty, history, and culture for many years to come.



ADDITIONAL WORK CONSULTED

Camilo, Lois González Rubén, Yamilé Guilarte, Lucrezia Lopez, Lois González Rubén Camilo, Yamilé Guilarte, and Lucrezia Lopez. Sustainability and Visitor Management in Tourist Historic Cities. Basel, Switzerland: MDPI-Multidisciplinary Digital Publishing Institute, 2020.

- 38 Christos D. Korkas, Simone Baldi, and Elias B. Kosmatopoulos, "Grid-Connected Microgrids: Demand Management via Distributed Control and Human-in-the-Loop Optimization," Advances in Renewable Energies and Power Technologies, 2018, pp. 315-344, https:// doi.org/10.1016/b978-0-12-813185-5.00025-5.
- 39 Mohammad M. Alazaizeh et al., "Tour Guide Performance and Sustainable Visitor Behavior at Cultural Heritage Sites," *Journal of Sustainable Tourism* 27, no. 11 (March 2019): pp. 1708-1724, https://doi.org/10.1080/09669582.2019.1658766.

³⁶ Karen Hughes et al., "Are You for Real?! Tourists' Reactions to Four Replica Cave Sites in Europe," Tourism Management Perspectives 37 (2021): p. 100780, https://doi.org/10.1016/j.tmp.2020.100780, 3.

³⁷ Nicola Cardinale, Gianluca Rospi, and Alessandro Stazi, "Energy and Microclimatic Performance of Restored Hypogeous Buildings in South Italy: The 'Sassi' District of Matera," *Building and Environment* 45, no. 1 (2010): pp. 94-106, https://doi.org/10.1016/j.buildenv.2009.05.017.



Improving Access to London's Council Housing

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EXECUTIVE SUMMARY

Housing in the greater London area has experienced significant declines in available council homes and very few new homes are being built annually to make up for this loss. With some councils having wait times of over eight years and London's population continually growing, the current output of affordable housing is not sustainable, as we see increases in homelessness and Londoners having to leave the city to find more affordable living options.

I explore three potential policy solutions: adopting a modern, less costly type of construction to streamline the output of council homes; awarding more funding for homebuilding in London; and enforcing annual quotas for councils to meet, which could potentially result in their planning powers getting revoked if they fail to meet their set annual amount of council homes.

Ultimately, the brief herein recommends adopting more contemporary construction standards. By using different materials and pre-assembling homes in factories, we could expect to see up to four times the amount of council homes built annually with the same amount of labor required with the current method. The cost-per-home would be reduced without requiring more jobs, and councils could easily deliver more homes. Though not the perfect solution, this option would open up the possibility of future policies to further aid the mitigation of the London housing crisis. Due to a reduction of cost and an increase in efficiency, this solution is the most politically feasible as it would not create a larger cost for councils to contend with, potentially furthering London's debt.

PROBLEM OVERVIEW

While London, England, has seen significant growth in its population and economy, the output of homes has not kept pace with this increase in population. In 2020, the population had climbed by 28% since 1997 and the number of jobs available in the city had seen a 45% increase as well. By contrast, the housing stock only increased by 20%, creating a significant deficit in available homes in the London area. This problem is particularly compounded for low-income Londoners who live in affordable housing, also known as council housing.

Approximately 13% of Londoners cited rent costs as the primary reason for moving away from the city, whereas roughly 8% of interviewed adults in the greater Britain area reported the same issue. Relocating, however, continues to put prominent pressure on councils outside of London, further deepening the housing crisis in Britain as a whole. Breaking down the population of Londoners forced to move elsewhere in Britain, the lack of available council housing primarily affects those with disabilities, poor, Black, and brown communities, with the ethnic minority population facing a 23.4% overcrowding rate compared to the white population seeing a 2.7% overcrowding rate.1 These historically disadvantaged groups are significantly more likely to be impacted by the housing crisis, particularly as these low-income communities are the ones most in need of council housing.

Council housing is a subset of affordable housing that's funded by the government. Alternatively called public housing, council estates, and social housing, council housing serves as a way for less affluent Londoners to obtain reasonably priced homes for rent. A report from the Greater London Housing Authority shows that over 4,000 council houses were built each year prior to 1980. This number saw a sharp decrease after 1980, with only 990 homes built between 1990 and 2010. In 2020, 3,300 council homes were built, the

second-highest number since 1982.2 This led to 789,800 council housing units being rented out in 2020. While the number of council homes has improved, there are still over 60.000 families facing homelessness, though put in temporary accommodations-such as hotelsby London's various councils. Moreover, this figure is likely an underestimate, given that it does not account for the increasing number of Londoners seen sleeping on the street due to the strain on affordable housing.

Due to the shortage of housing stock and high requirements to apply for council housing, the waitlists for each borough's council housing register remain high. For example, those on the waitlist in Bexley wait on average for 164 weeks for a one-bedroom home, equaling just over three years, and 144 weeks for a two-bedroom home. As of 2021, Bexley has a population of 13,681.3 Brent has a 27-month waitlist for a one-bedroom home, and the waitlist for a two-bedroom flat is eight years. Brent's population is 331,616, with over 2,000 applicants on the waitlist.

Lambeth in South London faces the most profoundly concentrated lack of available housing, with over 27,000 Londoners on the waitlist for council housing. The Lambeth Council claims to house over 1000 applicants vearly but receives over 3000 new applications annually.4 As such, the Lambeth Council states that not every applicant will receive housing, and those who choose to apply will have to wait for several years for placement. Lambeth's population sits at 317,600 people, making it the seventh most populated borough in London.⁵ Williams (2022) writes that Lambeth is one of the most expensive areas of London, putting a sense of pressure on its council to provide affordable housing. In order to combat the lack of council houses, some applicants are offered temporary accommodation to

James Gleeson and Catarina Finnerty, "Housing in London 2021" Greater London Authority (October 2021): 8, 21.

³ John James, "The staggering average wait for a council house in each London borough" MyLondon (18 June 2021).

⁴ Lambeth Council, "Apply for Social Housing" (2022).

⁵ Office for National Statistics, "How the population changed in Lambeth: Census 2021" (28 June 2022).

¹ James Gleeson and Catarina Finnerty, "Housing in London 2021" Greater London Authority (October 2021): 79.

"fast track" the process. Though the council provides temporary housing, there has been noted failure to disclose one crucial element: if an applicant resides outside of the council's area of jurisdiction, in this case, Lambeth, even if the residence is temporary and provided by the council, the applicant forfeits their place on the waiting list.⁶ Though this policy was revised after an applicant took legal action, this only further deepens the need for council housing, and temporary accommodations can last for several years during the extended waiting period.

ORIGIN OF LACK OF COUNCIL HOUSING

This lack of council housing is partially driven by then-Prime Minister Margaret Thatcher's "Right to Buy" Act, which provided residents of council housing the option to purchase their homes at prices much lower than the market standard. Local housing authorities were expected to provide discounts of up to 50% depending on how long they had lived in their homes. This policy led to a great number of council homes being purchased. However, the stock of council housing units was not replenished.

In order to combat this need, the Greater London Authority has implemented quotas for councils to meet; each borough's council is responsible for producing a certain quantity of affordable homes each year, and if these goals are not met, councils may lose their community planning powers, such as when and how council homes get built, as well as control over community events and projects.⁸ Housing Secretary Sajid Javid noted that these quotas would take into account local wages and market prices in an attempt to provide truly affordable housing. Additionally, the

Mayor's Housing Strategy Report proposes several in-depth policies to aid councils in building socially rented homes. Policy 3.3: "Diversifying the Home Building Industry" cites the following goals: "working collaboratively with councils to lobby Government to remove barriers to them delivering more [homes]; providing a package of investment, skills, and expertise from City Hall to enable councils to build more homes...[t]he Mayor will work with housing associations to ensure that they are able to significantly increase the number of new genuinely affordable homes, including those based on social rent levels, that they deliver".9

Though these policies have been implemented by the Greater London Authority, the 2021 housing report notes that "GLA-funded affordable housing starts fell in 2020/21 by 23% from last year, with construction started on 13,300 homes across all types of affordable housing." ¹⁰ While acknowledging the impact of the COVID-19 pandemic, this number indicates that previous years saw an output of just under 16,000 affordable housing units per year. As previously mentioned, only 3,150 of the 13,000 affordable homes built were council housing. Given the substantive increase in London's population, the pre-pandemic numbers still fail to account for those in need.

RELEVANT ACTORS

The major actors in London's housing crisis are the Greater London Authority, the regional governing body of London and the office of the Mayor, and the 32 borough councils in the greater London area. Borough councils serve as local authorities that are responsible for social services, community management, upkeep, waste management, and public education.¹¹ Councils are divided into geographic wards, similar to districts, and manage each borough's needs in accordance with the Greater London

⁶ Martin Williams, "2,300 people died while waiting for a council house last year" <u>Open</u> <u>Democracy</u> (2 November 2022).

⁷ Aled Davies, "'Right to Buy': The Development of a Conservative Housing Policy, 1945–1980". Contemporary British History (2 September 2013).

⁸ Tim Shipman, "Garden towns and expressway to sprout up in Oxbridge corridor" <u>The</u> <u>Sunday Times</u> (4 March 2018).

⁹ Greater London Authority, "Mayor's Housing Strategy" <u>Greater London Authority</u> (May 2018): 72.

¹⁰ James Gleeson and Catarina Finnerty, "Housing in London 2021" <u>Greater London Authority</u> (October 2021): 22.

¹¹ London Councils, "Who We Are" (2022).

Authority's policies. The GLA has authority over all of London and conducts yearly reports regarding London's housing situation, from the number of homes built to those affected by the lack of affordable housing units, as well as pursuing the goals laid out in the Mayor's Housing Strategy. Being at the forefront of this conversation, the GLA can implement policies that councils are required to follow, though that doesn't mean most councils, who already speak as though they're at their limit of what they can provide, would be fully in support of greater restrictions and pressure imposed upon them.

The general public in London also plays an important role in this discussion; the lower and middle classes are particularly affected by these policies, and every citizen is likely to have their own opinion on council housing. A survey was conducted in 2011 to get a sense of public attitude toward housing in England, with 19 percent of respondents reporting they felt that the government should allocate more money for the construction of council homes to make housing more affordable. 12 The survey also notes that social housing has appeal for a significant portion of private renters as well.13 Something of note in this survey is that there was no indication that there was a strong social stigma against social housing. However, it cannot be expected that the entire population has an overall positive view of council housing. Though it appears to be deemed advantageous for those who qualify, there are certainly portions of the general public who are against the idea of more funding or priority for council housing in London. This may not be a prominent enough problem to stall policies from being enacted but should be acknowledged when considering general public opinion.

The lack of affordable housing has also garnered the attention of international governing authorities. Specifically, the United Nations released a list of recommendations for the UK in November 2022, with

recommendations from The Democratic People's Republic of Korea, Romania, and Indonesia concerning accessible housing. On the basis of human rights, Indonesia recommended that the United Kingdom "[t]ake concrete measures to ensure the fulfilment of the right to adequate housing for all without discrimination." 14 While the United Nations cannot hold London specifically accountable. this pressure affects the attention of the higher forms of government in the UK, particularly the prime minister. As the UK's housing crisis has become prominent enough to stir recommendations from the United Nations, it has the potential to become a higher priority problem to face, particularly in the country's capital, which effectively serves as a representation for the entire country. However, it must be noted that these recommendations were published on November 14, 2022, and have yet to produce any results. At this point, it is pure speculation as to the ramifications this list may have, though it seems fair to assume it could lead to greater attention to the lack of equality and accessibility in London's housing.

STATUS QUO

As previously mentioned, the Mayor's London Housing Strategy, the most recent edition of which was published in May 2018, had set out to mitigate London's housing crisis. Khan identified five key priorities in this report: building homes for Londoners; delivering genuinely affordable homes; developing high-quality homes and inclusive neighborhoods; creating a fairer deal for private renters and leaseholders; and tackling homelessness and helping rough sleepers. Focusing specifically on council housing, the Mayor proposes the following policies of note to this brief:

"The Mayor will support homes based on social rent levels, allocated according to need to Londoners on low incomes. This will include: using his funding and planning powers to deliver homes based on social rent levels

¹² Eleanor Taylor, "Public attitudes to housing in England" <u>Department for Communities and</u> Local Government (July 2011): 21, 59.

¹³ Eleanor Taylor, "Public attitudes to housing in England" Department for Communities and Local Government (July 2011): 21, 59.

¹⁴ United Nations, "Chronological List of Recommendations" (14 November 22): 28.

¹⁵ Greater London Authority, "Mayor's Housing Strategy" <u>Greater London Authority</u> (May 2018): 9.

(which includes those for 'London Affordable Rent'); investing in councils that choose to deliver new council homes for rent; refusing to authorise any further conversions of social rented homes to higher rents." ¹⁶

However, as this brief has laid out, there has been little in terms of follow-through regarding these policies. We can see that there has been an annual increase of 0.6 percent in the social housing stock since 2019.¹⁷

Indeed, councils are producing new homes at a slow rate, and the number of Londoners on waitlists for council housing is only increasing. There is a lot of discussion and expectation around the development of more housing, which has admittedly been impacted by the Covid-19 pandemic, but that doesn't change the growing need for more social housing in London. The Greater London Authority has identified numerous reasons for the slow change in the housing situation, three of which I will offer potential solutions to: the cost of building, the amount of funding needed to fully mitigate the crisis, and a lack of incentive for councils to do more than they are already.

POTENTIAL SOLUTIONS

Solution 1: Reducing Building Costs by Building Differently and Increasing Housing Budgets

Gleeson and Finnerty cite the increase in the prices for construction materials as a roadblock to building more council homes.

18 Research done by the National Audit Office in the UK, however, shows that a more modern approach to building would be a beneficial solution to this problem. Homes built in factories using timber frames, pre-cast concrete foundation assemblies, pre-formed wiring looms, and mechanical engineering composites would reduce costs while

maintaining quality.¹⁹ Expediting construction in this manner could allow for homes to be assembled on-site, with an estimated increase in labor productivity seeing up to four times the number of homes typically built with the same amount of labor.20 The National Audit Office found in 2005 that switching to this method of home building would result in a 15 percent price reduction. At the time, the cost to build an average starter home was £60,000, amounting to \$73.270. Maintaining this price as an estimate and adjusting for inflation, the cost of building a starter home in 2022 would be \$87,904, or £71,947, therefore switching to the modern method of building would allow for a £10.792 cost reduction.

Taking a different, more cost-effective approach to constructing homes would likely be fairly feasible in terms of politics, as the major political parties in London have all shown to be committed to delivering more social housing, though their proposed methods are different. Conservatives are more concerned with home ownership than social renting, but both the Conservative and Labour parties have pledged to deliver more housing as a whole.21 As noted, the public has no particularly strong negative opinions of council housing that have been recorded, which makes this solution reasonable to consider. That said, it may not solve the issue of the council initiative to build said homes or negate the rising costs needed to meet the also-rising need for council housing.

Solution 2: Acquiring Additional Funding for Building

It has been shown that, in all of England, forty councils were unable to build any homes in the past five years due to significant budget

¹⁶ Greater London Authority, "Mayor's Housing Strategy" Greater London Authority (May 2018): 101.

¹⁷ James Gleeson and Catarina Finnerty, "Housing in London 2021" <u>Greater London</u> Authority (October 2021): 5.

¹⁸ James Gleeson and Catarina Finnerty, "Housing in London 2021" <u>Greater London Authority</u> (October 2021).

¹⁹ National Audit Office, "Using modern methods of construction to build homes more quickly and efficiently" (November 2005): 3.

²⁰ National Audit Office, "Using modern methods of construction to build homes more quickly and efficiently" (November 2005): 7.

²¹ Heather Stewart, "Spin with no substance': Labour dismisses Tory social housing pledge" <u>Guardian News and Media</u> (14 May 2017).

cuts from the Conservative party.22 While these councils are not in London, it is a fair assumption that a lack of funds contributes greatly to the fact that homes are not being built across all councils. The Central Government provides councils with funding for social housing, with funding allocation determined by a Conservative coalition that redirected a large majority of funds to for-profit housing.23 In 2018, the Central Government awarded a £2 billion increase for new social housing, but it has been estimated that London would need an additional £4.9 billion per year from 2023 to 2028 to deliver the number of homes needed to remedy the housing crisis. In total, the amount needed to build up a reasonable amount of housing stock would be £7.4 billion.24 This number does account for all homes across London, not just socially-rented housing. Still, the Greater London Authority notes that council houses are delivered at a rate of 47 percent annually.²⁵

The question then remains how the UK would be able to secure this much funding. As the Central Government has awarded additional funding before, it's possible that a larger amount could be given to London specifically for housing. Additionally, the Public Works Loan Board (PWLB) is cited as a common source for borrowing if the entire amount can't be supplied from the Central Government. As far as public support goes, data shows that there are very few Londoners against more allocation of funding for housing, as roughly ten percent of Londoners surveyed either had no opinion or didn't think anything needed to change, while the rest were generally supportive.26 It must be noted that this data did not specify

22 Chaminda Jayanetti, "Forty councils in England built no social housing for five years due to cuts" <u>Guardian News and Media</u> (13 November 2022).

- 23 Chaminda Jayanetti, "Forty councils in England built no social housing for five years due to cuts" <u>Guardian News and Media (13 November 2022).</u>
- 24 Greater London Authority, "Affordable Housing Funding Research" <u>Greater London</u> <u>Authority</u> (August 2022): 5, 27.
- 25 Greater London Authority, "Affordable Housing Funding Research" <u>Greater London Authority</u> (August 2022): 23.
- 26 Eleanor Taylor, "Public attitudes to housing in England" <u>Department for Communities</u> <u>and Local Government</u> (July 2011): 21.

political affiliation; Conservative voters tend to be much wealthier than Labour voters, therefore their perception of the housing crisis and council housing as a whole is remarkably different, as Conservatives are typically found to be landlords and homeowners who have little to no use for social rent.²⁷ We can assume that there would be some pushback from Conservative voters, although polling data does not indicate a strong negative opinion.

Major political parties would have varying degrees of support, however; the Conservative party has been lobbying for an overhaul in how council housing is approached. In 2015, former prime minister and Conservative party leader David Cameron proposed the concept of starter homes replacing affordable homes as a way to increase homeownership in London, an extension of the Right to Buy Act.28 The Conservative party pushes consistently for the idea of Londoners being able to buy their own homes as opposed to relying on social welfare for housing as the cost per home increases, while the Labour party emphasizes access to basic needs for all Londoners, including council housing.²⁹ The two parties stand at odds here; the Conservative party is currently in power with Rishi Sunak as the sitting prime minister and has a strong desire to push Londoners into owning their homes while politicians on the Labour side advocate strongly for improved affordable housing without the condition that these homes be eventually bought out, further creating a deficit in the housing market. The political reception would be largely mixed, with Conservatives most likely against this

Solution 3: Holding Councils Accountable for Meeting Quotas

The Mayor of London has previously mentioned enforcing annual housing output quotas on councils to incentivize them into building more

²⁷ Dawn Foster, "A Conservative election victory could spell the end of council housing" <u>Guardian News and Media (5 May 2017).</u>

²⁸ Colin Wiles, "David Cameron is on Track to Kill Council Housing" <u>Guardian News and Media</u> (7 October 2015).

²⁹ Dawn Foster, "In May's dystopian 'meritocracy' there are no council houses" <u>Guardian</u> <u>News and Media (7 October 2016).</u>

council homes.³⁰ However, there is currently no evidence that councils are being held accountable for not meeting any proposed quotas. If the Greater London Authority were to enforce quotas and, in the event that councils fail to produce enough affordable homes, take away planning powers and intervene, it would likely cause an uptick in the number of council houses provided on a yearly basis. For example, if Lambeth Council does not build a minimum of 1500 homes per year, its authority over housing and community enrichment may be limited through an approval process with the GLA or the GLA could be entitled to take over the planning process if the council has significantly lackluster results. A restriction on planning powers could include the Lambeth Council being unable to control when, where, or how more council homes are built, or even expand to a lack of control over communitybased projects, such as road maintenance and community wellness events. As the local governing body, councils are responsible for administrative tasks in each jurisdiction; having its planning powers limited or taken away entirely could serve as a high incentive for councils to be proactive in their approach to council housing.

Depending on the area each borough is in, it would be important to take into consideration the space, wages, and how many Londoners are seeking housing in order to fairly set quotas; Tower Hamlets has the highest poverty rate in London, with 2 out of 5 people living in poverty. while Merton has the lowest poverty rate in all of London.31 It would not be efficient nor feasible to expect both boroughs to be able to put out the same amount of council houses annually, and this may lead to other problems if not considered. Nonetheless, actively enforcing quotas and holding councils accountable if they do not meet their yearly minimum would be a viable solution to this problem. This could be problematic for councils that don't wish for further government interference and has the potential to create more problems in the

future despite the fact that it would encourage strong change in the output of houses overall.

POLICY EVALUATION

The current output of council houses in London is not sustainable for the growing population and its needs, and three potential solutions have been proposed to alleviate the issue as much as possible. Each solution has been measured across the following metrics: cost, efficacy, and political feasibility. Table 1 shows the estimated results of each policy option based on these criteria. My evaluation follows four levels of impact: positive, negative, mixed, and no change. Some policy options, while mostly viable, have an equal amount of potential for positive and negative impacts on the overall policy goal and could create further issues in the future.

Table 1: Policy Evaluation

Policy Options	Costs	Efficacy	Political Feasibility
Status Quo	*	-	*
Policy Option 1	+	+/-	+
Policy Option 2	+/-	+	+/-
Policy Option 3	*	+	-

^{+:} Positive impact on policy goal.

The status quo would show almost no change across my evaluation metrics. As it is now, the housing crisis would continue the way it has been, which reduces the overall efficiency of the policy outcome. The goal of remedying the housing crisis would not be met, and both the need for council housing and London's population would continue to grow at a faster pace than the housing stock.

The first policy solution would perform

³⁰ Tim Shipman, "Garden towns and expressway to sprout up in Oxbridge corridor" <u>The Sunday Times</u> (4 March 2018).

³¹ Trust for London, "Poverty rates by London borough" <u>Trust for London</u> (2019).

^{-:} Negative impact on policy goal.

^{+/-:} Mixed impact on policy goal.

^{*:} No change in impact on policy goal.

reasonably well across these metrics, as adopting a modern way of construction would decrease costs, and there is no evidence to show that there would be any strong political backlash to doing so. Rather, the reduction in labor would likely be seen as a positive. However, we could expect to see mixed results in the efficacy of this solution. While the cost per home would decrease and more homes could be built with the same amount of labor, this does not negate the number of homes that are needed and the overall funding required to fully meet London's needs.

The second policy solution offers mostly mixed results. While allocating more funding for housing is positive, the method from which the funding comes could put councils, the GLA, or even the Central Government further in debt, creating another problem. Thus, although it would allow for more homes to be built at the rate they're needed, it may be unadvisable to either dip into the reserves or utilize loans. This would also create potential political tensions, as the general public appears to be in favor of more money being put into social housing, but political leaders may not be in favor of creating more debt or deficits in funding.

Finally, the third policy option would likely see little to no change in cost, but would significantly increase the efficacy of the policy outcome. As previously stated, pressure on councils to perform within certain parameters would increase council homes being built. Councils would either put forward more effort into building, or the GLA would do so in their place if they failed to perform. Where we see mixed results is in political feasibility; the general public will be expected to fall into one of two camps, either in favor of the quotas and the production of more social housing or against governmental interference. Similarly, politicians and councils would likely fall into the same two camps, with councils more likely to be against the heightened presence of the GLA and the potential for their planning powers to be revoked.

FINAL RECOMMENDATION

While the policies perform similarly, the first policy solution is likely to be the most feasible, if not the most preferable of the three. Through changing building methods, there will be an overall reduction in the cost-per-home and the amount of labor needed will stay relatively the same. There would be less significant political backlash or expending an abnormal amount of money in order to achieve results compared to the other proposed solutions. Changing construction methods would allow for collaboration with future policies, such as housing quotas, as it would expedite the rate



at which council homes can be built without requiring more physical labor. As it wouldn't reduce jobs or increase costs, this seems to be the most reasonable solution out of the three.

Previous notes regarding the general political stances on council housing must be taken into consideration; since the Conservative party (and by extension its voters) lobbies strongly for homeownership over social rent, there may be some opposition among Conservative leaders and voters. A separate policy initiative for a reduced cost for for-profit affordable housing could be considered to bolster the housing market in a holistic way. Alternatively, with reduced cost, council homes could be built under the Right to Buy scheme with the condition that for every home purchased, three more council homes must be built within the same calendar year.

Regarding implementation, the most effective time would be at the beginning of the year to allow for easily trackable results. To start this process, the Lambeth Council would be the first to pilot this program as it has the most people on its council housing waitlist. With the proper funding and reduced building cost, the Lambeth Council should have the capacity to see this through. In terms of success, a 10 percent increase in council houses built by the end of the first year would be preferable. After the process becomes more streamlined, the policy can expand to the surrounding boroughs, such as Croydon, Merton, Wandsworth, and Southwark. Within four years, a 45 to 60 percent increase could be feasible as the process becomes more automated and would show substantive progress in solving London's housing crisis. 32

At the six-year mark, modern building methods could be spread to the entirety of London. Though London's population continues to grow and there is no truly perfect solution, providing a more cost-effective way to supply more houses and begin to decrease the gap between the population and housing stock, with success being primarily contingent on replacing any council homes that are taken off the market through the Right to Buy Act.

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³² London Councils, "London Councils Grants Directory" <u>London Councils</u> (2023).

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Combatting Statelessness
Among Dominicans of
Haitian Descent in the
Dominican Republic

Andrea Brannock

ABSTRACT

Bound through both their geography and colonial past, the nations of Haiti and the Dominican Republic have had a long and turbulent history with each other. The tensions resulting from this relationship have led to extreme acts of discrimination towards Haitians in the Dominican Republic. resulting in the Dominican government passing Migration Law 285/04. The passing of this law in August of 2004 redefined Dominican citizenship laws. leaving thousands of Dominicans with Haitian ancestry stateless. As a consequence, statelessness has left these populations more vulnerable to poverty and violence, as they have been completely excluded from society.

BACKGROUND

Since its founding in 1844, the Dominican Republic has practiced jus soli citizenship. This meant that anyone born within the borders of the Dominican Republic had automatic Dominican citizenship. The only exception to this rule was if the child was the legitimate child of diplomats or the child was born to parents who were "in transit." It is thought by legal scholars that "in transit" was originally meant to refer to people traveling through the Dominican Republic such as tourists. However, in August 2004, the Dominican Republic changed its citizenship laws with the passing of Migration Law 285/04. This law redefined the definition of "in transit" to include temporary foreign workers and undocumented migrants. This law almost solely impacted Dominico-Haitians,1 as the Haitian diaspora in the Dominican Republic is the result of illegal Haitian migration in order to work on Dominican sugar cane plantations. Thus, over 200,000 Dominico-Haitians have been left in a

Throughout this paper, I will use the term "Dominico-Haitians" to reference Dominicans of Haitian descent.

state of *de facto* statelessness,² in which they are no longer recognized as citizens by any state. This legislation is the product of years of racial discrimination towards Haitians and those of Haitian descent in the Dominican Republic, as part of an effort to appease the growing Dominican far-right.

In May 2014, after backlash from the international community, the Dominican government passed Law 169-14 (also known as the "Naturalization Law"). This law gave those impacted by Migration Law 285/04 a pathway to legal recognition by the Dominican state. Those impacted by the Migration Law were divided into two groups: group A and group B3 (see Appendix A). Those in group A already had documents such as passports. birth certificates, or ID cards, but they were revoked when the citizenship laws changed. Those in Group B were born in the Dominican Republic, but they were unable to obtain any documents to prove their right to citizenship as a result of the Dominican Republic's low birth registration rates (see Appendix B).4 According to the Dominican government, those in Group A would have their citizenship reinstated while those in Group B would have access to a registration process they could use to achieve

citizenship.⁵ This system has not functioned well, and as of 2018, only 19,000 Dominico-Haitians have had their citizenship restored⁶. Moreover, despite this solution, the Dominican government began deportations anyway. An estimated 154,333 "Haitians"⁷ were deported from the Dominican Republic to Haiti in 2022, and as of March 2023, an additional 21,391 "Haitians" were deported.⁸

The statelessness experienced by these Dominico-Haitians has had dangerous consequences. Firstly, it makes them vulnerable to deportation. Deportation is especially dangerous for them because many of them have never been to Haiti nor do they speak Creole, and the political instability in Haiti has become deadly. Secondly, it leaves them without the rights that citizenship guarantees. Citizenship ensures full political rights, such as the right to vote and full protection from the state, and it safeguards access to services like public education, healthcare, and social welfare. However, citizenship also fosters a sense of belonging and community9 making forced statelessness one of the ultimate forms of exclusion a state can employ. Thus, the solutions that should

² There are two types of statelessness: de jure and de facto. De jure occurs when a person is not recognized as a citizen under the laws of any state, and those in this group are considered to be "legally stateless." De facto occurs when a person is not recognized as a citizen by any state, even when they have a legal claim to citizenship under the law of one or more states, and those in this group are considered to be "effectively stateless." "Statelessness," US Department of State, Bureau of Population, Refugees, and Migration. Accessed May 11, 2023, https://www.state.gov/other-policy-issues/statelessness/.

^{3 &}quot;Working to secure the rights of minorities and Indigenous Peoples," Minority Stories, Minority Group International. Accessed April 4, 2023, https://stories.minorityrights.org/ dominican-republic/timeline/timeline/.

⁴ In the Dominican Republic, births are registered at the local registry office of the town where the birth took place. However, registry officials have often refused to issue birth certificates to children with Haitian parents. Thus, many Dominico-Haitians never received birth certificates or any other identifying documents. Steve Brito, Ana Corbacho, and Rene Osorio. "Does Birth under-Registration Reduce Childhood Immunization? Evidence from the Dominican Republic." Health Economics Review 7, no. 1 (2017). doi: https://doi.org/10.1186/s13561-017-0149-3.

⁵ Ernesto Sagas and Ediberto Roman, "Who Belongs: Citizenship and Statelessness in the Dominican Republic," Georgetown Journal of Law & Modern Critical Race Perspectives 9, no. 1 (Spring 2017): 35-56. https://heinonline.org/HOL/P?h=hein.journals/ gimodco9&i=39.

⁶ Jonathan Katz, "What happened when a nation erased birthright citizenship," The Atlantic, November 12, 2018, https://www.theatlantic. com/ideas/archive/2018/11/dominican-republicerased-birthright-citizenship/575527/.

⁷ The statistics that are being reported by the Dominican government label both illegal Haitian migrants and Dominico-Haitians as "Haitians." However, it is known that a portion of the "Haitians" being deported are Dominico-Haitians, as authorities are targeting anyone that looks Haitian. Jillian Kestler-D'Amours. "Dominican deportations to Haiti fuel growing fears, frusturation," Aljazeera, November 24, 2022, https://www.aljazeera.com/news/2022/11/24/dominican-deportations-to-haiti-fuel-growing-fears-frustration.

⁸ Jacqueline Charles, "Dominican Republic continues to deport Haitians en masse," Miami Herald, March 20, 2023, from https://www.miamiherald.com/news/nationworld/world/americas/haiti/article273122880.html.

⁹ Bilkis Afroza Siddika. "Impact of Statelessness: Are We Ready to Face?" Open Journal of Social Sciences 07, no. 12 (2019): 1–11. Doi: https://doi.org/10.4236/jss.2019.712001.

be employed to help Dominico-Haitians must focus on not only improving their current standard of living but also ensuring that they have viable pathways to citizenship.

SOLUTION 1:

Obtain Haitian Citizenship

A pathway for citizenship that has been presented by both the Haitian and Dominican governments is for Dominico-Haitians to become Haitian nationals. Unlike the Dominican Republic, Haiti uses jus-sanguinis citizenship in which citizenship is granted on the basis of descent. Accordingly, denationalized Dominico-Haitians are eligible for Haitian citizenship because they either have parents or grandparents that are Haitian nationals¹⁰. In fact, the Dominican Republic has claimed that because these individuals are descendants of Haitians, Haiti is required to ensure that they have citizenship.11 In response. Haiti has created the Programme for the Identification and Documentation of Haitian Immigrants. At this point, Dominico-Haitians can apply for Haitian citizenship at a Haitian consulate (or one of the five centers that the Haitian government has set up for this purpose) for 1000 Dominican Pesos.¹² The main benefit of obtaining Haitian citizenship is that it would allow Dominico-Haitians to gain documentation in order to achieve legal residence and avoid deportation.

The main issue with this solution is that Haiti simply does not have the administrative capacity to process citizenship applications at the appropriate scale. Moreover, another large hurdle associated with the process is acquiring birth certificates. In order to receive citizenship, one must show proof they are a descendant of someone born in Haiti. For

10 Robb Rousseau, "Who and What Defines a Haitian National?" The Haitian Times, June 3, 2020, https://haitiantimes.com/2020/06/03/who-and-what-defines-a-haitian-national/.

- 11 Sagas and Roman, "Who Belongs," 35-56.
- 12 Bridget Wooding. "Haitian Immigrants and Their Descendants Born in the Dominican Republic." Oxford Research Encyclopedia of Latin American History (2018). doi: https://doi. org/10.1093/acrefore/9780199366439.013.474.

many Dominico-Haitians, their parents were born in rural parts of Haiti, so they do not have birth certificates. This means that in order to complete the paperwork, Dominico-Haitians must find another way of proving their parent's birth location.¹³ The current system has no way of addressing this issue.

Presently, 45,000 people have been able to register, but only 5% of this group were able to receive their passports. Overall, the Haitian government is struggling, and support from intergovernmental organizations such as the United Nations (UN) or the Organization of American States (OAS) is essential to help aid with the implementation of this program and facilitate cooperation between the Dominican Republic and Haiti¹⁴.

SOLUTION 2:

Pressure from the United States

The Dominican Republic's decision to revoke the citizenship of Dominico-Haitians was unexpected, as the Dominican Republic relies heavily on other countries for trade, aid, and tourism. In addition to this, in 2005 the Inter-American Court of Human Rights (IACHR) ruled that the changes the Dominican Republic made to its citizenship laws were a violation of international human rights law. In response to this ruling, the Dominican Republic pulled out of the treaty establishing the IACHR. The decision of the Dominican Republic to ignore that ruling shows a disregard for international law and the international community as well as a potential to continue to defy international

- 13 Wooding, "Haitian Immigrants and Their Descendants."
- 14 "Report of the Technical Fact-Finding Mission on the Situation in the Border Region Between the Dominican Republic and Haiti," Organization of American States, July 29, 2015, https://www.oas.org/ en/media_center/press_release.asp?sCodigo=S-030/15.
- 15 Article 15 of the 1948 Universal Declaration of Human Rights Protects an individual's right to a nationality. According to the Declaration, "Everyone has the right to nationality. No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality." "Universal Declaration of Human Rights," United Nations. Accessed May 11, 2023, https://www.un.org/en/about-us/universal-declaration-of-human-rights.
- 16 Katz, "Birthright Citizenship."

law in the future.¹⁷ For this reason, the only way to compel the Dominican Republic to comply with international law is through pressure from the United States.¹⁸

The United States is in a perfect position to exert future pressure because it has held a close relationship with the Dominican Republic for years. To elaborate, it is one of the Dominican Republic's largest aid donors and one of its largest trade partners. Furthermore, a significant amount of tourism to the Dominican Republic is from the United States. 19 Having said that, this pressure must include tangible consequences for non-compliance. The previous backlash from the international community has not actually resulted in any substantial repercussions, so the Dominican Republic has not been encouraged to make any changes to its citizenship policies. Therefore, if the United States were to reduce trade and financial support to the Dominican Republic, the pressure would be nearly impossible to ignore.

SOLUTION 3:

Humanitarian Aid and Legal Support from NGOs

Support from non-governmental organizations (NGO) could consist of support for Dominico-Haitians through legal assistance and humanitarian assistance. Firstly, those impacted by Law 169-14 need assistance navigating this legal process to either achieve Haitian citizenship or go through the new "naturalization process." While there are a few NGOs that help provide legal assistance to stateless Dominico-Haitians through the

creation of networks of international lawyers and paralegals, the majority of the NGOs that do exist are focused on helping Haitians through the process of legal immigration. Furthermore, the programs that existed through NGOs or UN organizations ceased shortly after the implementation of Law 169-14.

Secondly, in concurrence with legal support, NGOs must work to improve living conditions in the bateys.²⁰ The current living conditions in the bateys are preventing Dominico-Haitians from accessing the required resources to go through a long and arduous legal process. As it relates to the necessary improvements, since nearly 85% of the youth population in the batevs are adolescents, they must receive the support in order to obtain the proper legal documents that will allow them access to education, vocational training, and employment outside of the bateys. Moreover, approaches should include efforts to increase food security and access to safe water, increase economic security, and reduce threats to personal and political security.21 In 2012, the UN implemented a project focused on providing humanitarian aid to the bateys, but the program ended in 2015. Overall, projects such as this one and legal support are essential for improving the quality of life among these populations and helping them to achieve citizenship.

¹⁷ Wendy Hunter and Francesca Reece. "Denationalization in the Dominican Republic: Trapping Victims in the State's Administrative Maze." *Latin American Research Review* 57, no. 3 (2022): 590–607. doi: https://doi.org/10.1017/lar.2022.48.

^{18 &}quot;Dreams Deferred: The Struggle of Dominicans on Haitian Descent to Get Their Nationality Back," Robert F. Kennedy Human Rights, May, 2017, https://rfkhumanrights.org/assets/ documents/RFK DR Report-WEB.pdf.

^{19 &}quot;Dominican Republic Trade." Dominican Republic Trade | WITS Data. World Bank, 2020, https:// wits.worldbank.org/CountrySnapshot/en/DOM.

²⁰ When Haitians first migrated to the Dominican Republic in the 1960s to work on sugarcane plantations, bateys (often referenced as shantytowns) were created as settlements for them live in. They are still where many Haitian migrants and Dominico-Haitians live today. It is estimated that in the Dominican Republic there are currently over 400 bateys with about 500,000 residents. The living conditions in the bateys are deplorable, and they often lack running water and electricity. "The Origin of the Dominican Batey," Children of the Nations. Accessed May 11, 2023, https://www.cotni.org/the-origin-of-the-dominican-batey?id=the-origin-of-the-dominican-batey?:~:text=An%20estimated%20 500%2C000%2Onot%20have%20latrines.

^{21 &}quot;Improving Human security in the Bateys of the Dominican Republic by Securing Documentation and Ensuring Vulnerable People's Needs are Met," United Nations Trust Fund for Human Security, August 2017, https://www.un.org/humansecurity/wp-content/ uploads/2017/08/Programme-summary-75.pdf.

SOLUTION 4:

Reform the JCE

The Dominican Republic has made the Junta Central Electoral²² (JCE) the institution that is solely responsible for carrying out the "naturalization process" implemented by Law 169-14.23 This has been an incredibly effective approach at subduing any backlash from the international community because government officials have been able to divert blame for the poor functioning of the process onto the JCE and bureaucrats. However, the issues with the process are not entirely the JCE's fault, as when the Dominican government implemented the "naturalization process," the systems of the JCE were ill-equipped to handle it. For example, staff were often under-trained and computer systems were too weak and inefficient to handle the caseload. In fact, the process was often so arduous, applicants had to return to the JCE offices around five or six times to complete it. Additionally, there was a poor dissemination of information by the JCE about the process to Dominico-Haitians that already have low education levels and little access to media.24

Reforming the JCE is a way to ensure Dominico-Haitians will be able to use the existing processes to achieve legal recognition. One way to make these changes is through outside sources. If the Dominican Republic is willing to cooperate with the international community, then the UN should implement training programs for JCE officials. In addition to this, the Dominican Republic should also implement oversight mechanisms to continue to monitor the JCE after the programs finish.²⁵

- 22 The JCE is the Dominican body of government that is mainly responsible for facilitating elections as well as registering and maintaining the identification records of Dominicans. Hunter and Reece, "Denationalization in the Dominican Republic," 590-607.
- 23 Hunter and Reece, "Denationalization in the Dominican Republic," 590-607.
- 24 Hunter and Reece, "Denationalization in the Dominican Republic," 590-607.
- 25 "Evaluation of PRM- Supported Initiatives to Prevent and Reduce Statelessness," US Department of State, April 23, 2021, https://www. state.gov/wp-content/uploads/2022/02/Contract-No.140D0420R0037-PRM-Statelessness-Final-Evaluation-Report-Resonance-4.30-508.pdf.

RECOMMENDATION:

Solutions 1 and 2

Dominico-Haitians present a unique case of statelessness with no easy solution, as the denial of citizenship for Dominico-Haitians is not a result of the invocation of a formal process, but rather the result of a claim that citizenship never existed in the first place or that the previous recognition of citizenship was fraudulent or obtained by error. Thus, solutions to improve the situation of Dominico-Haitians must target the avenues that can be immediately taken to help them gain citizenship. Taking this into account, the best way to quickly address statelessness among Dominico-Haitians is through helping Dominico-Haitians achieve citizenship in either Haiti or the Dominican Republic. This can be done most effectively through a combination of solutions 1 and 2.

While solutions 3 and 4 are still important, they are the most valuable when considering a long-term approach for the future. On the other hand, solutions 1 and 2 provide Dominico-Haitians the most immediate pathways to citizenship and legal representation, Although. there are aspects of these two solutions that are imperfect. For example, regarding solution 1, many Dominico-Haitians do not want to take on Haitian citizenship as they identify strongly with being Dominican. Moreover, acquiring Haitian citizenship would force them to go through a second legal process of acquiring legal residency if they wished to stay in the Dominican Republic²⁶. The "naturalization process" provided by Law 169-14 is more palatable, but it will only function if changes are made to the JCE. Nonetheless, even with this solution's shortcomings, acquiring citizenship and legal residence is essential for Dominico-Haitians to avoid deportation and eventually be able to access state services in either the Dominican Republic or Haiti.

As it relates to solution 2, the Dominican Republic could continue to reject foreign pressure, resulting in the failure of the solution. However, due to their notable relationship with

²⁶ Sagas and Roman, "Who Belongs," 35-56.

the United States, it is unlikely they will reject pressure from them. This likeliness to fold makes it seem improbable that this pressure will only hurt the citizens of the Dominican Republic instead of accomplishing its goal. Furthermore, hopefully pressure from the United States would encourage the Dominican Republic to reform the JCE or completely repeal

the Migration Law. Overall, these solutions do not eliminate discrimination towards Haitians, nor do they completely reverse the damage caused by the Dominican Republic's changes to their citizenship laws, but they are a starting point for improving the living situation of many Dominico-Haitians.

APPENDICES

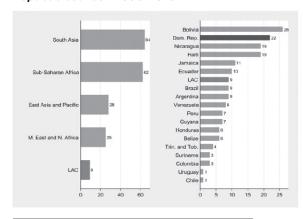
APPENDIX A:

The three groups defined by the Naturalization Law. 27



APPENDIX B:

The percentage of children (ages 0-4) without birth certificates in the Dominican Republic between 2000-2010.²⁸



- 27 Wooding, "Haitian Immigrants and Their Descendants."
- 28 Steve Brito, Ana Corbacho, and Rene Osorio. "Does Birth under-Registration Reduce Childhood Immunization? Evidence from the Dominican Republic." *Health Economics Review* 7, no. 1 (2017). doi: https://doi.org/10.1186/s13561-017-0149-3.



International Regulation and Standardization of Private Military and Security Companies

Seth Siple

ABSTRACT

The proliferation of private military and security companies has altered the means that states conduct security operations and manage war, but international law is yet to appropriately reflect the role private entities now play on the international stage. Their presence in conflict has also contributed to increases in war crimes and human rights violations with little to no accountability. To properly regulate and reform the private sector of war, crucial steps must be taken in establishing internationally recognized definitions of PMSCs, differentiating them from combatants, mercenaries, or civilians, and to codify their role in international security. The proposed solutions of an international binding instrument, private sector reform, and international legal attribution. personality reauire the cooperation of both public and private actors to ensure this unregulated area of military capacity is no longer abused or manipulated without consequence.

INTRODUCTION

Turning away from the negative connotations associated with the term mercenary, the term private military and security companies (PMSC) accounts for all corporate entities that provide military services short of combat.¹ Utilized by states and organizations alike, PMSCs enable states to augment their forces and outsource security work that use to be exclusive to the state. Current disparities in terminology and practices used among states and between the private and public sectors delay standardization and accountability

P.W. Singer, "Corporate Warriors: The Rise of the Privatized Military Industry and Its Ramifications for International Security," *International Security* 26, no. 3 (2001): 186–220.

within the global private military industry.² This delay enables legal impunity and gray zones of jurisdiction regarding the PMSC's non-combatant status under International Humanitarian Law to be manipulated by states for deniability of intervening in other states' affairs and increasing their globalized security posture.

The most influential steps towards standardization have been the 2008 International Committee of the Red Cross's Montreux Document and sessions of the United Nations PMSC open-ended working group overseen by the Human Rights Council (UNHRC). The Montreux document identifies the good state practices required on all sides of PMSC operations in regard to International Humanitarian Law (IHL), such as their registered state of nationality, the state territory they operate in, and the state that contracted their services.3 The UNHRC working group has been active for various sessions since 2010, with a central focus on the international regulatory framework for the registration, monitoring, and oversight of PMSCs. These drafts advocate ideas of shared state responsibility and accountability of PMSCs regarding both International Human Rights Law (IHRL) and IHL with the intent of binding power behind the instrument.4

Because PMSCs make up an international industry, multilateral binding agreements are necessary to standardize processes for contracting, accountability, and prosecution for violations of international law in all contexts.

Mirroring and often pushing along international framework development, the private sector is pushing to make PMSCs a part of the solution in creating higher standards for performance and adherence to IHRL. The International Code of Conduct for Private Security Service Providers Associations (ICoCA) aims to go beyond basic ISO certifications for PMSCs,5 developing networks of private security companies committed to undergoing continuous certification and monitoring to become affiliates or members of their organization.6 However, compliance with standards can only be enforced by the threat of losing membership status, which does not facilitate reparations or accountability for unlawful actions committed. Although private sector initiatives have been able to create infrastructure prudent to the conventional use of privatized security, its severe lack of authority among states and intergovernmental organizations (IGO) creates no incentive for states to abide by industry norms. To remove enduring gaps in legal jurisdiction, international law needs to reflect the system it is supposed to regulate which now has proliferated with PMSCs.7

² Christine Bakker and Mirko Sossai, Multilevel Regulation of Military and Security Contractors: The Interplay Between International, European and Domestic Norms, Studies in International Law; v. 38 (Oxford; Hart Publishiing, 2012).

³ Paul Seger and Philip Spoerri, "The Montreux Document on Pertinent International Legal Obligations and Good Practices for States Related to Operations of Private Military and Security Companies During Armed Conflict," 2008, https:// shop.icrc.org/the-montreux-document-on-privatemilitary-and-security-companies.html.

⁴ Mxolisi Nkosi, "REVISED ZERO DRAFT INSTRUMENT ON AN INTERNATIONAL REGULATORY FRAMEWORK ON THE REGULATION, MONITORING OF AND OVERSIGHT OVER THE ACTIVITIES OF PRIVATE MILITARY AND SECURITY COMPANIES," in Third Session of the Open-Ended Intergovernmental Working Group to Elaborate the Content of an International Regulatory Framework, without Prejudging the Nature Thereof, Relating to the Activities of Private Military and Security Companies (UN OEIGWG on PMSCs, Palais des Nations, 2022), https://www.ohchr.org/sites/default/files/2022-05/PMSCs_Revised_Zero_Draft_Instrument_CLEAN.pdf.

^{5 &}quot;ISO 18788:2015 Management System for Private Security Operations — Requirements with Guidance for Use," International Organization for Standardization, accessed May 16, 2023, https://www.iso.org/standard/63380.html.

⁶ David A. Wallace, "International Code of Conduct for Private Security Service Providers," *International Legal Materials* 50, no. 1 (February 2011): 89–104, https://doi.org/10.5305/intelegamate.50.1.0089.

⁷ Lauren Groth, "Transforming Accountability: A Proposal for Reconsidering How Human Rights Obligations Are Applied to Private Military Security Firms," *Hastings International and Comparative Law Review* 35, no. 1 (2012): 29–87.

APPROACH 1:

Binding International Instrument

The progression of a binding instrument under UNHRC is vital to the international recognition of definitions and the roles and responsibilities of all actors involved, the most important being states. The UNHRC Chair-Rapporteur has invited members of the Montreux Document Forum and ICoCA to contribute to the writing and revision of the second draft instrument. in hopes of drafting holistic standards for regulation as appropriate at the international level.8 While states already have a duty to uphold human rights and IHL, the focus of this international instrument needs to be on setting standards for discerning the rights and role of PMSCs in both states of conflict and humanitarian assistance, in so much as to maintain state sovereignty and the functions of the state in both cases.9 However, as the drafts continue revision, the international instrument is currently disconnected from private practice as to what duties PMSCs can perform. This requires reinforcement from states and international organizations involved in the drafting process to agree on the allotted authority PMSCs have in performing their duties and recognize what authority should be rescinded to mitigate risks of human rights violations. This framework must address requirements for licensing growing past that of ISO certifications, oversight organizations, third-party reporting, complaint registry, and standards must clarify who has the sovereignty to prosecute war criminals with private status.¹⁰ Working in tandem with priorly recognized norms and agreements, this instrument has the potential to mobilize

action against unethical PMSCs that are active around the world.

APPROACH 2:

Granting PMSCs International Legal Personality

As PMSCs execute state functions of security and military services, there is legitimacy in claiming that they must be held to similar international laws as states. This focus must primarily be on IHRL and IHL with the possibility of including international criminal law. If able to sign and ratify international agreements such as the Geneva Conventions, Rome Statute, and the Universal Declaration of Human Rights, PMSCs can be held accountable in international courts for violations of law.11 This can additionally protect employees of international PMSCs as they can appeal cases of unlawful orders, attain prisoner-of-war status when captured, and can have representation in international courts and organizations12.

While states would not want their sovereignty challenged by private corporations, the increased incorporation of PMSCs into international law has increased practicality when considering that their legal personality is solely for their regulation and accountability. An increase in representation and exposure in the international community can greatly decrease the obscurity and uncertainty surrounding PMSCs, and possibly empower ethical PMSCs to gain traction and expose corruption within the private sector. This recognition of PMSCs as international legal entities could also facilitate agreements and international protocols developed and ratified by PMSCs to foster a sense of unity and industry standards within the public sector.

⁸ Mxolisi Nkosi, "Progress Report on the Third Session of the Open-Ended Intergovernmental Working Group to Elaborate the Content of an International Regulatory Framework, without Prejudging the Nature Thereof, to Protect Human Rights and Ensure Accountability for Violations and Abuses Relating to the Activities of Private Military and Security Companies*," Human Rights Council 51st Session (United Nations General Assembly, July 12, 2022).

⁹ A/HRC/51/40

¹⁰ Christopher Kinsey, "International Law and the Control of Mercenaries and Private Military Companies," *Cultures & Conflicts*, no. 52 (June 26, 2008), https://doi.org/10.4000/conflits.11502.

¹¹ Manizja Aziz, "Applying the Regime of IHL and International Responsibility to the Use of PMSCs in UN Operations: Demonstrating the Misalignment between International Law and International Reality," *Universiteit Leiden*, July 6, 2018.

¹² Kate Neilson, "ENDING IMPUNITY: BRINGING SUPERIORS OF PRIVATE MILITARY AND SECURITY COMPANY PERSONNEL TO JUSTICE," New Zealand Yearbook of International Law 9 (2011).

APPROACH 3:

Industry-Led

The work done by ICoCA since its founding in 2013 has been monumental in creating industry standards and certifications for PMSCs wishing to differentiate themselves from those who have acted unethically or unlawfully. ICoCA accepts state and non-state members, including seven state governments, forty-five NGOs, and over a hundred security companies.13 ICoCA's tiers of affiliation and membership are attained through extensive auditing, monitoring, and instruction on ethical adherence to international laws. Administrative associations fulfill a deficit in self-regulation among PMSCs, and with a wellknown industrial standard, contracts can be made with greater trust between parties and reduce issues of unfavorable organizations from impairing constructive steps forward in addressing the roles of PMSCs.

Increased support for ICoCA, by promoting their certified member PMSCs, will further emphasize the importance within the industry to have transparency and accountability. As various PMSCs undergo rebranding or are acquired by another PMSC following cases of misconduct, self-regulation and other laissezfaire approaches to reforming the industry are ill-equipped in dealing with the issue at hand. Furthering organizations like ICoCA that bridge the gap between state and nonstate entities can sustain developing states in monitoring PMSCs active in their territory.

RECOMMENDATION AND CONCLUSION

As efforts are prone to fail if not united, it is recommended that the UNHRC open-ended working group continue working in conjunction with the private sector, which has the means of measuring and supporting change within the industry. For successful regulation of PMSCs, as with any other attempt to regulate nonstate actors, there needs to be a synthesis between international standard setting, supervision, accountability, and robust national systems of licensing and regulation. Defining what role and limitations PMSCs play in the future of security efforts around the world must be reflected in international law and to a lesser extent the reaffirmation of state duties to uphold human rights. As major supporters of PMSCs such as the United States and European Union are already supportive of the good practices established in the Montreux Document, further refinement that will come out of UNHRC efforts needs to aid developing states in bolstering their means of regulating PMSCs. Although providing international legal personality for PMSCs is a possible solution, it does not provide the international legal community with working and accepted definitions and terms to use in the cases of holding PMSCs accountable under international law. Therefore, a binding instrument with contemporary definitions and designs for regulation and standardization is a greater priority than putting PMSCs directly at the negotiating table.

The **PMSC** rate of proliferation is unprecedented, resulting in increased risks of human rights violations and global insecurity. In areas where state laws have progressed in regulating PMSCs, information sharing and mutual legal assistance must extend to support states that are currently victims of PMSC-fueled vulnerability. It is equally important to delineate between different nonstate actors that are present in high-risk areas including private military companies, security companies, and mercenaries. In areas where one or more of these are present, regulation must discriminate between the operations of each party and to what effect they undermine

^{13 &}quot;Members Archive," ICoCA - International Code of Conduct Association, 2023, https://icoca.ch/membership/.

¹⁴ Lou Pingeot, "Dangerous Partnership" (Global Policy Forum, June 2012); Simon Chesterman and Chia Lehnardt, From Mercenaries to Market: The Rise and Regulation of Private Military Companies (Oxford University Press, 2007); Hin-Yan Liu, Law's Impunity: Responsibility and the Modern Private Military Company (Hart Publishing, 2015); Michael Williams and Rita Abrahamsen, "Security Beyond the State: Private Security in International Politics," Brown Journal of World Affairs 18, no. 1 (2011): 171–82.

the efforts made to resolve issues of conflict or insecurity.

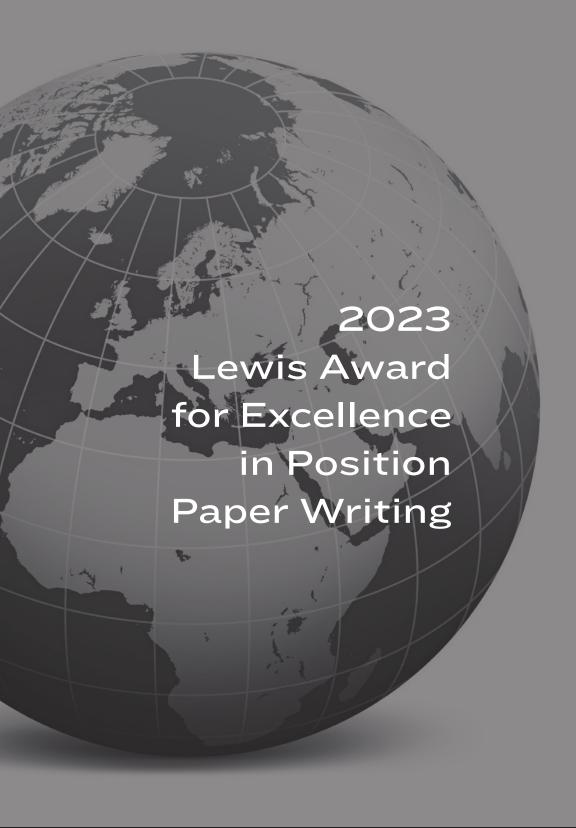
It is essential that the rise in force privatization does not supersede the functions of the state as seen in mercenary work throughout the developing world. As PMSCs become more intertwined in the disposition of global security, it is necessary to delineate the threats self-regulated military and security services pose to human rights and IHL. States have the obligation to protect their people's human rights and control all actors capable of violence within their borders. Without states, IGOs, and private actors such as ICoCA and prominent PMSCs taking action to refine the rule of law surrounding PMSCs, this issue will compound until a major conflict between world powers creates the need for increased regulation.

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Each year since 2012, the Martin Institute presents the Lewis Award for Excellence in Position Paper Writing. The award is named for former Institute director Rand C. Lewis, who established the tradition of taking Institute-affiliated students to the National Model United Nations (NMUN) Conference in 2000. Position papers are normally written in advance of a meeting in order to communicate a national, organizational, or personal position on a particular issue or set of issues. They emphasize both thoroughness and succinctness in equal measure, given that as many entities as will attend a particular meeting generate position papers. They differ from policy papers and white papers in that they do not seek to justify why a particular position is being advocated, but rather to communicate a country's position/policy.

At its core, each issue dealt with in a position paper has three main components, each one paragraph in length; these are complemented by an overview paragraph. Each seeks to emphasize the country's engagement in and leadership related to the issue and essentially "justify" why other countries should heed a particular national position. The main three:

History and Definition of the Issue, including the key international agreements the country supported, leadership roles the country may have played, and important ongoing efforts in the international arena regarding the issue that are supported by the country.

Current Efforts, whether international, regional, or national that demonstrate a country's engagement with the topic.

Position and Future Direction, featuring specific statements about what a country would like to see adopted regarding the issue.

Position papers in the Martin Institute typically deal with two issues, each of which must fit onto a single page, front and back.

This year's recipients of the Lewis Award are Dakota Coddington and Gabriella Ponce, who wrote about Danish positions on a pair of topics discussed by the Commission on the Status of Women at NMUN 2023. Congratulations to them both; here is their paper in its entirety.



Delegation from the Kingdom of Denmark

Position Paper for the Commission on the Status of Women

2023 National Model United Nations Conference

Dakota Coddington and Gabriella Ponce

The Issues before the Commission on the Status of Women are as follows: Closing the Gender Gap in Social Protection and Strengthening Institutions to Promote Gender-Inclusive Access to Financial Services and Resources. The Kingdom of Denmark is a member of the European Union, the Nordic Council, the Commission on the Status of Women, the Committee on the Elimination of Discrimination Against Women, UNWomen, the International Labor Organization, the United Nations Conference on Trade and Development and many other organizations with the focus of helping the world's women. Denmark is committed to the following issues:

CLOSING THE GENDER GAP IN SOCIAL PROTECTION

The Kingdom of Denmark views the closing of the gender gap regarding social protections as an important issue. Denmark sees the implementation of the Beijing Declaration and Platform for Action (BPfA) as a very important part of creating understanding of the role of gender equality in society. The government pushes for and promotes that gender equality must play a visible role within the UN system both as a separate goal but also as an active policy of mainstreaming a gender perspective into all policies. Denmark realizes that more progress is needed to achieve full equality between men and women and stated this at the United Nations High Commissioner for Refugees in the Committee on the Elimination of Discrimination Against Women. Denmark pushes for gender equality internationally and stands in agreement with UN Women that it is a prerequisite for economic growth, democracy, and welfare as well as a fundamental freedom in political, economic, social, cultural, and civil spheres of life.

The Kingdom of Denmark continues to support gender equality and aims for better social protections for women. Denmark on various occasions has supported resolutions that lean towards progress for gender gaps and social protections like Resolution 52/100, which is the follow up to the Fourth World Conference on Women and full implementation of BPfA. Denmark is also an active member of the Commission of Status of Women and participated in the adoption of the political declaration, E/2015/27, where leaders and member states agreed to fully implement the BPfA on gender equality and to address the gaps that hold women back. As a member of the International Labor Organization (ILO), since 1919, Denmark is in agreement of the policy brief: Closing Gender Gaps in Social Protection which follows the key points in what organizations need to know to progress in this area.

The Act on Modification of the Companies Act and the Financial Statements Act entered into force on April 1st, 2013 in Denmark. These provisions helped companies set realistic goals and targets for gender composition in management. This helped formulate the policy on Gender Equality in Denmark that is aimed towards increasing the share of underrepresented genders in management within companies. The Danish Business Authority also makes annual evaluations of companies' efforts to create gender balance based on annual reports from the companies themselves. These efforts help increase the education and knowledge of what types of social protections women should receive and help them take a step towards closing the gender gap. The government has also sought to encourage female entrepreneurship and has introduced a maternity equalization program for the self-employed to increase their financial compensation during parental leave. The Kingdom of Denmark also provided \$63 million in extraordinary funding for the Covid-19 pandemic to help frontline organizations continue their important work for women and girls in vulnerable situations. Working closely with UNWomen, Denmark continues to empower women and close the gender gap in social protections.

The Kingdom of Denmark urges the international community to advocate and participate with UN Women as a partner for progress and consistently advocates for women's and girl's access to innovation training and opportunities as well as economic empowerment. In July 1980, Denmark signed the Convention on the Elimination of All Forms of Discrimination against Women and then ratified it in April of 1983. By accepting the Convention, Denmark commits to undertake a series of measures to end discrimination against women in all forms, establishing tribunals and other public institutions to ensure the effective protection of women against discrimination and to ensure elimination of all acts of discrimination against women by persons, organizations, or enterprises and encourages other countries to do the same.

STRENGTHENING INSTITUTIONS TO PROMOTE GENDER-INCLUSIVE ACCESS TO FINANCIAL SERVICES AND RESOURCES

The Kingdom of Denmark has played a significant role in the development of gender equality in access to financial services and resources. In 2016, the UN Secretary General established the High-Level Panel on Women's Economic Empowerment, and Denmark has been an early adopter of their goal to leave no one behind and ensure women have equal access to loans and jobs. Denmark currently has a seat on the Executive Board of the CSW. In 1996, Denmark passed the Act on Prohibition against Discrimination in respect of Employment which ensures that women and anyone with a job will be treated and compensated equally. Denmark signed the Beijing Platform for Action and has ensured that both men and women in Denmark have equal access to loans. Denmark stands with the United Nations Conference on Trade and Development (UNCTAD) and is promoting eTrade Readiness, specifically for women. Denmark continues to support the CSW Session 63 and were early ratifiers on parts of the ILO C102 - Social Security (Minimum Standards) Convention, 1952 (No. 102).

Internationally, Denmark partners with the Organization for Cooperation and Development (OECD) and other global financial organizations to

promote equal development for women in Africa, they do this by helping their legal frameworks provide means for them to have businesses. Denmark's initiative in Tunisia promotes the leadership of women in response to the COVID-19 pandemic. Denmark also supported the Women's Entrepreneurs Finance Initiative (We-Fi), which promotes gender mindful loans to women across the globe. The Kingdom of Denmark continues to promote the same equality that is suggested by the BPfA. Denmark also supports A/RES/53/120 within the UN and the Economic and Social Council (ECOSOC) to ensure that the world stays on focus with the BPfA.

The Kingdom of Denmark is fighting for equal rights for women to have access to financial help both within the international community and in their own country. In 1996, Denmark passed the Act on Prohibition against Discrimination in Respect of Employment, which ensures that employers cannot reject an employee on the basis of race, gender, ethnicity, creed, etc. During the Danish Presidency of the Nordic Council of Ministers, Demark fought to decrease the gender gap in the labor markets. Also in agreement with the Nordic Council, Denmark strives to incur gender equal pensions by deriving them from noncontributory benefits. The UN Women Liaison Office to the Nordic Countries is in Copenhagen. Denmark joins with the EU to help the Empower Women Organization, an organization funded by the EU, ILO, and UNWomen that has a goal to make sure no one is left behind economically.

The Kingdom of Denmark firmly believes that empowering women economically will strengthen and support economies worldwide. In cooperation with the UN and the 2030 Sustainable Development Goals (SDGs), Denmark supports goal 5, Gender Equality. It strongly encourages the nations of the world to have gender inclusive loans and credit access, and to implement laws such as Denmark's Act on Prohibition against Discrimination in respect of Employment. Denmark urges nations to continue to strive for the SDGs and to follow the guidelines set forth by CEDAW.





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