University *of* Idaho

Journal of the
MARTIN INSTITUTE
INTERNATIONAL STUDIES
Volume 14, Issue 1

Letter from the Editors

In 1979, Grace C.S. and Boyd A. Martin founded the Martin Institute at the University of Idaho. Since then, it has grown to be a center of learning for global affairs and international organizations. The Martin Institute has continued to be an inviting space for students, faculty, staff, and guests to research, collaborate, and learn from each other. As International Studies majors, there is no better place than the Martin Institute to come together and discuss our interests through conventional methods or informal activities.

The Martin Institute provides students with a high-quality education by helping them learn about the various aspects and levels of International Studies. Firstly, student's pick a language to study. Then, they pick a region and topic to focus on. Subsequently, students base their choice of study abroad location on those decisions. This allows students to learn a country's language and later improve those skills while experiencing a different culture. During their sophomore year, students participate in a course about the UN that is followed by going to New York City for the National Model United Nations Conference (MUN). Students participate in MUN by representing a country in a UN committee. Students and community members have continued to appreciate the opportunity to listen and talk with guest speakers, international leaders, and scholars that speak at Martin Forum or associated Borah Symposium. These are just a few of the many opportunities that International Studies students enjoy here on campus.

In addition to these activities, the Capstone program allows seniors the opportunity to write a white paper on a specific issue relating to their regional emphasis. The top research papers are published in the annual Journal of the Martin Institute. Since 2009, the journal has published students' work on a variety of ongoing issues. This year's papers covered especially pressing issues that editors found to be exceptionally relevant to current events Each research paper submitted was thoroughly reviewed, but those selected for the journal did an excellent job at communicating the importance of their issue and the proper solutions from governing bodies. We appreciate all authors who researched and communicated their findings on these important topics. Thank you for your commitment to excellence.

Andrea Brannock   *Marshall McMillan*

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

2022
Journal of the Martin Institute
International Studies

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The Baltic Security Dilemma in the Post-Soviet Era

– Willem Hermann-Wedemeyer

ABSTRACT

The nations of Estonia, Latvia, and Lithuania share a common history and geographic location along the Eastern shores of the Baltic Sea. After gaining independence in the early part of the 20th century the nations were occupied during the second world war, this occupation transitioned into an indirect occupation by the Soviet Union lasting until 1991. Since regaining independence, the region's strategic position between Western Russia, and Northern Europe has generated numerous security dilemmas that continue to exist today. These security dilemmas include economic, energy, and national security threats that have gone unresolved in the last decade.

OVERVIEW

Since regaining independence in 1991 the three Baltic States of Estonia, Latvia, and Lithuania have reformed their political and economic systems to align with western democratic norms. This dramatic shift away from the Russian geopolitical structure that dominated the subregion for 50 years has both bolstered the security of the Baltic States as well as generated new threats. All three Baltic States are members of the North Atlantic Treaty Organization (NATO) as well as the European Union. This alliance with western democracies has allowed the Baltic States to achieve both economic security and the continued security of their borders.

Regional security complex theory suggests the Baltic Sub-region has transitioned out of the "post-Soviet security complex" and moved into the "EU-Europe" security Complex.[1] While security analysts consider the Baltic

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1   Andžāns, Māris. "Transition of the Baltic States Sub-Region: From the 'Post-Soviet' to the 'Eu-Europe' Regional Security Complex?" Proceedings of the International Scientific Conference of Daugavpils University / Daugavpils Universitates Starptautiskas Zinatniskas Konferences Materiali, no. 55 (May 2014): 452–62.

States as now firmly in the greater European Security Complex the Baltic sub-region still faces security threats unique to its geographic position. Currently, the security elements under the greatest threat in the Baltic Region are energy, cyberspace, and now more recently border security.

Unlike much of the European continent, the Baltic States are considered relatively safe from threats of climate change ranking relatively low according to a Global Climate Risk Index (Estonia 158th, Latvia 98th, Lithuania 134th).[2] While free from climate change related security threats, according to Western security expert's threats to Baltic energy, cyber, and border security have increased in the 21st century.[3] The primary element threatening the abovementioned security elements is the Russian Federation, more specifically the Russian state's renewed aggressive foreign policy.

In 2008 the previously isolated Baltic States implemented the Baltic Energy Market Interconnection Plan (BEMIP) to integrate its energy infrastructure with that of the EU (see fig 1).[4] Despite this action the Baltic States are still divided on energy security and lack solidified regional energy agreements. Both Latvia and Lithuania owe nearly 90% of their oil and gas imports to Russia with Estonia being the only exception due to its own domestic crude oil reserves.[5][5] This heavy reliance on a sole proprietor of energy leaves the region susceptible to unstable energy prices as well as creates strategic vulnerability.

A secondary component to energy security is the element of cyber security. The 21st century has seen the weaponization of computer technology specifically in targeting and disabling civilian infrastructure. This threat is materialized in the Baltic States as the extreme vulnerability of energy infrastructure as well as a general lack of awareness of the general public and policymakers.[6] The general barrier to Baltic State energy and cyberspace security is the diverging priorities of the three states with that of the rest of the EU.

Rising separatist movements in eastern and central Europe have given rise to new security threats in the region. Pressure from outside powers, namely Russia has encouraged and supported minority ethnic groups within eastern European states.[7] This threat is a reality for the Baltic States as there are more than one million ethnic minority Russians currently living in the Baltic sub-region (see fig 2).[8]

POSSIBLE SOLUTIONS

SOLUTION 1:

Fully Align with the West

Despite the easy access to Russian energy resources through previously developed energy infrastructure and geographic proximity, the Baltic States should instead transition their energy dependence to a more reliable source. Due to the recent conflicts in Georgia in 2008 and Ukraine in 2014 and 2022, the Russian state is no longer a viable energy partner. The risk posed to Baltic energy security by the Russian State warrants an end to current and future energy agreements. Furthering energy integration with the rest of the EU in conjunction with a change in energy suppliers is the most suitable solution to current threats to energy security.

2   Eckstein, David, et al. "Global Climate Risk Index 2021."*Germanwatch E.V.*, 2021.

3   Jakniunaite, Dovile. "Changes in Security Policy and Perceptions of the Baltic States 2014 - 2016." Journal on Baltic Security 2, no. 2 (July 2016): 6–34.

4   "Baltic Energy Market Interconnection Plan." Energy. European Commission, April 2020.

5   "Energy Imports Dependency." European Commission. Eurostat Data, April 3, 2022.

6   Molis, Arūnas, Claudia Palazzo, and Kaja Ainsalu. 2018. "Mitigating Risks of Hybrid War: Search for an Effective Energy Strategyin The Baltic States." Journal on Baltic Security 4 (2): 23–32.

7   Diamant, Jeff. "Ethnic Russians in Some Former Soviet Republics Feel a Close Connection to Russia." Pew Research Center, May 31, 2020.

8   Nielsen, Kristian, and Heiko Paabo. 2015. "How Russian Soft Power Fails in Estonia: Or, Why the Russophone Minorities Remain Quiescent." Journal on Baltic Security 1 (2): 125–57.

The most viable option for a new energy supplier is to follow the path the major European states like Germany and France have taken by engaging the United States for their energy needs.[9] The further development of liquified natural gas (LNG) terminals to support the importation of American natural gas would ensure future energy security. Currently, there is only one operational LNG terminal in Lithuania, this number should be increased to include both Estonia and Latvia.[10] This shift of energy reliance from an unreliable neighbor state to a fellow NATO member will ensure basic energy security in the region.

For threats concerning cyberspace and future state sovereignty, the Baltic States must renew their commitment to deterrence through NATO. Currently, all three Baltic States exceed the 2% GDP defense expenditure requirement of NATO but there are significant gaps that monetary contributions cannot fix.[11] Weak defensive relations with other European states such as Germany has created distrust, this must be resolved as the Baltic States alone cannot deter a Russian incursion.[12]

SOLUTION 2:

Appease and Reconcile

If the Russo-Ukrainian conflict should resolve peacefully the Baltic States will act as the bridge in soothing economic tensions between the western democracies and Russia. Much of the oil and gas Russia exports flow through Baltic ports amounting to 2.86 million tons in 2020.[13]

This creates a renewed opportunity for regional energy agreements and would contribute to ensuring future Baltic State economic and energy security.

As the Baltic States are considered front-line NATO nations a part of appeasement would entail a de-escalation of NATO forces that are concentrated in the region. For the previous two decades, NATO policy has been to maintain a minimal military presence in the Baltic States with approximately only 4000 NATO troops being deployed in all three states.[14] The Russian enclave of Kaliningrad is one of the most heavily fortified territories in all of Europe and it is situated directly between Poland and Lithuania.[15] The formation of an agreement that entails the mutual demilitarization of both Kaliningrad and the Baltic States as well as Poland to a mutually agreeable level would be a primary step in relieving tensions.

One of the primary benefits to Baltic national security with the reconciliation approach is the reduction of the threat from Russian minority groups in the region. With positive economic and political relations with Russia, the security threat of Russian separatist movements will be greatly reduced. As one of the primary economic arteries of the Russian State, with approximately $12 billion in annual trade (2020), the Baltic States are in the strategic position to enhance their national security by incentivizing economic cooperation between Europe and Russia.[16]

SOLUTION 3:

Energy Diversification and Deterrence

9   Rogers, Dan, Richard Nelson, and Nina Howell. "LNG in Europe 2018 - An Overview of LNG Import Terminals in Europe." King & Spalding Law, 2018.

10   Riva, Gianmarco. "The Baltic States and Energy Security: How Else Can the EU Foster Their Energy Resilience in the Face of Russian Pressure?" PONARS Eurasia, June 9, 2021.

11   Braus, Heinrich. "Russia's Strategic Interests and Actions in the Baltic Region." DGAP. German Council on Foreign Relations, DGAP Report No. 1, January 07, 2021, 30 pp.

12   Hyde-Price, Adiran. "NATO and the Baltic Sea Region." NATO Research Fellowship Scheme - Final Report. Institute for German Studies, University of Birmingham, 2000.

13   "Ports in Baltic States Still Handling Russian Oil Products - Data." Nasdaq, May 27, 2021.

14   Veebel, Viljar, Illimar Ploom, Liia Vihmand, and Krzystof Zaleski. 2020. "Territorial Defence, Comprehensive Defence and Total Defence: Meanings and Differences in the Estonian Defence Force." Journal on Baltic Security 6 (2): 17–29.

15   Cybriwsky, Roman. 2013. "Königsberg and Kaliningrad: An Historic European City and a Strategic Exclave of Russia." American Geographical Society's Focus on Geography 56 (4): 117–23.

16   Sineviciene, Lina, and Rytis Krusinskas. 2018. "How Dependent Are the Baltic States on Russia?" Europe-Asia Studies 70 (8): 1264–80.

As demand for energy increases the strain on the globalized trade system will increase. For this reason, when considering energy security, the Baltic States should approach the issue by developing multiple avenues for future energy. Relying for the majority of your energy needs on a sole proprietor is too great a risk and therefore a mix of energy importing as well as domestic production should be implemented. The geographic proximity to Russian energy resources should be used to supplement demand rather than supply all the demand. To augment the security risk that current Russian foreign policy creates energy importing should be sourced from multiple countries.

Estonia is largely energy independent, however, the oil shale industry that generates this independence will become less viable as renewable energy takes priority.[17] This domestic production of oil and the subsequent Estonian energy surplus should be used as a buffer in the transition to a more diversified energy portfolio.

The future of Russo-Baltic relations is largely determinant on the outcome of the ongoing conflict in Ukraine. If the trend towards a peaceful settlement continues, then Baltic States will need to reevaluate national security policy. The balance the three Baltic States will need to find is between maintaining and possibly expanding deterrence mechanisms while avoiding escalation. The current political regime in Russia considers Latvian, Estonian, and Lithuanian membership in NATO as a direct threat to Russian national security.[18] With this perception of the Russian political climate in mind Baltic States must seek to ensure their own security by minimizing tensions with Russia.

RECOMMENDED SOLUTION

SOLUTION 1 & 3

While Solution 1 will likely be the direction the Baltic States will be forced into if Russian aggression continues in eastern Europe the recommended solution is solution 3. Combining a diverse energy import portfolio with balanced NATO deterrence policies is the best solution to the Baltic security dilemma. Europe is on a fast trajectory towards integrated renewable energy infrastructure and away from Russian energy dependence.[19] The three Baltic States must follow suit as they will play a very important role in determining the relationship between the Russian energy sector and the rest of Europe.

With current Russian aggression in Eastern Europe at its peak, the Baltic States must seek alternatives immediately to minimize the threat to energy security. Short term this solution proposes reliance on stored gas reserves in Latvia which are currently estimated to house 7.6 terawatt-hours (TWh).[20] This gas reserve as well as the single LNG terminal operating in Klaipeda, Lithuania will service the Baltic Market until more LNG terminals can be built.

The long-term portion of this solution is the slow, limited reintroduction of Russian energy imports. The implementation of the long-term portion of this solution will be determined by the outcome of the current Russo-Ukrainian conflict. The reasoning behind even allowing Russian trade back into the region is the net economic benefit as well as the diplomatic potential to ease tensions and avoid further conflict.

National and Cyber security are equally pressing issues with tensions between NATO the EU and Russia continuing to rise. The strategic economic and geographic location between St Petersburg in the North and Kaliningrad to the

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17 75. "Estonia - Energy." Country Commercial Guide. International Trade Administration, 2020.

18 Kerrane, Evan. 2020. "Russian Insecurities: How Fear Drives Perception in the Near Abroad." Journal on Baltic Security 6 (1): 23–32.

19 Dieckhöner, Caroline, Stefan Lochner, and Dietmar Lindenberger. 2013. "European Natural Gas Infrastructure: The Impact of Market Developments on Gas Flows and Price Market Integration." Applied Energy 102 (February): 994–1003.

20 "The Outlook of Latvian Potential Underground Gas Storages ..." Sustainable Development Goals. UNECE, 2017.

south puts the Baltic States at the frontlines of NATO. The Russian government for years has sought a reduction of NATO forces in the Baltic Region as well as demanding nearby Sweden and Finland stay out of NATO. While the Russian government may perceive the Baltic Region as a credible military threat publicly, an analysis by the Center for European Policy Analysis (CEPA) suggests the region as one of the primary weak points of NATO.[21]

For the Baltic States to ensure their own national security there must be a renewed commitment to other European states. According to the same security analysis done by CEPA, there is a big disparity in military forces in the region (see fig 3).21 However, according to the same analysis, the real weakness of the region is the lack of a common threat assessment. Policymakers in the Baltic States share a differing assessment of the security in the region than that of central Europe and the United States.[22] The distrust that has been generated by diverging economic interests in Europe has created a dysfunctional defensive relationship weakening the region. The Baltic States must continue to solidify their own national security by reducing the trust deficit through information sharing and greater cooperation.

Solution 3 which combines a renewed effort on regional defense, while fostering an environment that allows for diplomatic solutions is the best hope for maintaining Baltic regional security. While threat analysis concludes that the Russian State remains the largest threat to Baltic security policymakers must make an effort to reduce tensions rather than escalate them. The geographic location of Latvia, Lithuania, and Estonia and their proximity to the bulk of Russian military forces should encourage policymakers to act as a mediator between escalatory activities from both Russia and NATO. 🌍

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21 Lucas, Edward, Ben Hodges, and Carsten Schmiedl. "Close to the Wind: Baltic Sea Regional Security." Center for European Policy Analysis, September 9, 2021.

22 SIMÃO, Licínia. 2011. "Discursive Differences and Policy Outcomes: EU-Russia Relations and Security in Europe." Eastern Journal of European Studies 2 (1): 81–95.

APPENDIX

Figure 1

"Energy Policy: The Baltic States." Studies & reports no 98, Notre Europe.

Figure 2

Source "The Russian Diaspora in the Baltic States." Strategic Update 2021. LSE Ideas.

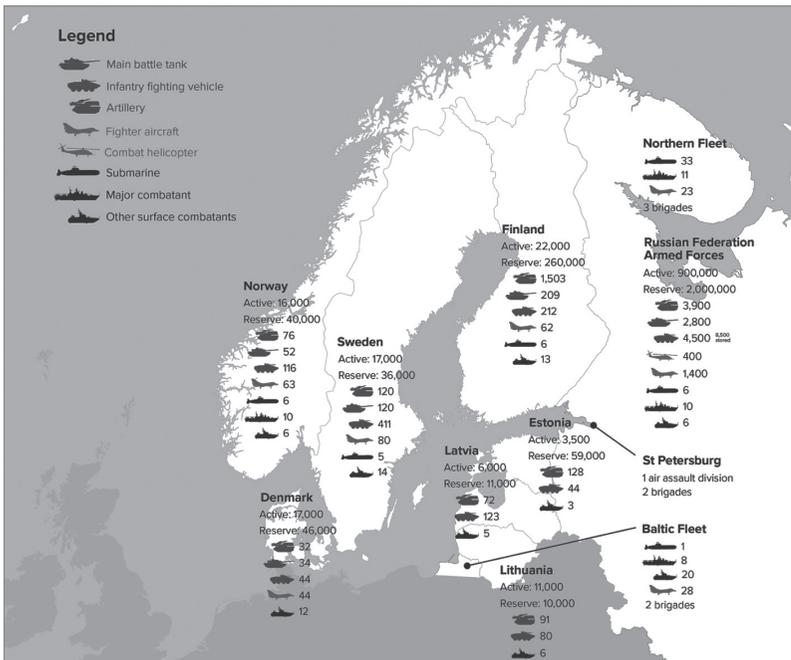| State	% of ethnic Russians			
	1989	2001	2011	2020
Estonia[3]	30.3	28.1	24.8	24.7
Latvia[4]	34.0	-	31.2	24.9
Lithuania[5]	6.31	5.81	5.37	4.5

Figure 3

Source: "Finnish Military Intelligence Review 2021," Finnish Defense Forces, 2021.

Facilitating Cooperation Between North and South Korea

– Megan Kent

ABSTRACT:

After an armistice agreement put an uneasy end to the Korean War in 1953, North and South Korea have maintained a tense and turbulent relationship. This unstable relationship is highlighted by North Korea's unpredictable and erratic behavior towards international relations, ultimately causing tensions and concern in East Asia to soar in recent years. With the election of current president Moon Jae-In, South Korea has shown a renewed interest in promoting peaceful negotiation and cooperation with their northern counterpart. Though there are many avenues in which peaceful relations can be pursued on the peninsula, the North's reactionary attitude to change has consequently made cooperation largely dependent on South Korean led efforts. Utilizing bilateral, civilian motivated courses of action, coupled with an assured participation from the North, is the most viable approach to effectively and efficiently facilitate Inter-Korean cooperation.

BACKGROUND/OVERVIEW:

The Korean Peninsula has been divided and at odds for the last 70 years. The status of the Korean Peninsula changed after the collapse of the Joseon Dynasty and the subsequent annexation of Korea by Japan in 1910. The peninsula was then thrust into a period of Japanese colonization that lasted through World War II, with the occupation only ending when Japan lost the war and was forced to give up its imperialized land in 1945.[1] Newly independent Korea found itself divided between communist influences in their north and democratic influences in their south. No unitary government could be established, and by 1948 the various parties agreed to disagree on the formation of a single government, resulting in

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1   Buzo, Adrian. *The Making of Modern Korea*. Third ed. Asia's Transformations. London: Routledge, Taylor & Francis Group, 2017: 46-84

the creation of the two modern states that are seen today.[2] Political and ideological tensions soared in the years that followed the split, and in 1950 North Korea fired shots at the border, effectively invading South Korea and ultimately starting the Korean War.[3]

The war became a global one, with forces from various factions emphasizing the Cold War divisions already extant. North Korea, receiving help from the Soviet Union and Communist China, and South Korea, with the help of the UN led by the United States, pushed and pulled at the border until it eventually settled on the 38th parallel in July 1953.[4] With no sign of either side softening its stance, the tug-of-war over the border and, likewise, the Korean War was ended with an armistice agreement. Though a peace treaty was discussed during this time, neither side wanted to let go of the prospect of a unified Korea. Stuck in a stalemate, the Korean War is, in essence, still ongoing to this day. Because of this, proposals for an immediate peace and/or unification are improbable at best, therefore identifying workable avenues for cooperation between North and South Korea is a step that needs to come first.

Facilitating effective interactions between North and South Korea has been a continued topic for discussion between the two states for several decades. Shortly after the two countries were admitted to the UN in August 1991, North and South Korean leaders announced the Agreement on Reconciliation, Non-aggression, Exchange, and Cooperation, which pushed for cultural and economic exchange between the two states. During this time period they also discussed replacing the standing armistice agreement with a "peace regime."[5] Seven years later, in 1998, South Korean President Kim Dae-Jung heralded the Sunshine Policy

which aimed at promoting cooperation and interaction through economic aid to the North.[6] However, this policy was abandoned in 2010 when the South Korean Unification Ministry officially declared the policy a failure.[7] Since then, there has been a reinvigorated movement towards peaceful cooperation between the two states, as can be seen with the three Inter-Korean Summits between Moon Jae-In and Kim Jong-Un in the lead up to the signing of the Panmunjom Declaration in September of 2018.[8] Further cooperation between North and South Korea would also prove to be instrumental in alleviating tensions outside of the peninsula as well. Regulating the everchanging relationship between the two countries signifies the key to stabilizing Asia as a whole.

APPROACH 1:

Active North Korean Cooperation

South Korea, in an effort to promote peace and prosperity on the Korean Peninsula, has taken many steps towards interacting with North Korea in a nonaggressive manner. In recent years, North-South Korean interactions have been more frequent as can be seen with the several Inter-Korea summit meetings in 2018, along with Moon Jae-In's energetic approach to the matter.[9] However, North Korea's resistance to cooperation and its old-fashioned bargaining behavior presents the biggest roadblock. North Korea exhibits a dated way of interacting with the global world by using a sequence of bluffing, brinkmanship, diplomacy, crisis,

2   Buzo, 84.

3   Stueck, William. *The Korean War : An International History*. Course Book ed. Princeton Studies in International History and Politics ; 68. Princeton, NJ: Princeton University Press, 1997.

4   McCune, Shannon. "The Thirty-Eighth Parallel in Korea." *World Politics* 1, no. 2 (1949): 223-32. Accessed April 6, 2021. doi:10.2307/2008844.

5   "Agreement On Reconciliation, Non-aggression And Exchanges And Cooperation Between The South And The North." *Asian Perspective* 16, no. 1 (1992): 157-61.

6   Hogarth, Hyun-key Kim. "South Korea's Sunshine Policy, Reciprocity and Nationhood." *Perspectives on Global Development and Technology* 11, no. 1 (2012): 99-111.

7   South Korean Ministry of Unification. "Important Events from 2009 to Present." Accessed April 1, 2021. https://www.unikorea.go.kr/eng_unikorea/relations/importantEvents/.

8   United Nations, General Assembly, *Panmunjom Declaration on Peace, Prosperity, and Reunification of the Korean Peninsula: report of the Secretary-General*, A/72/109 (10 Sep 2018)

9   Frank, Rüdiger. "North Korean Summits: Lessons Learned and The Road Ahead." *Horizons: Journal of International Relations and Sustainable Development*, no. 12 (2018): 120-43. Accessed April 6, 2021. doi:10.2307/48573516.

and stalemate.[10] These tactics are no longer working and are actively halting progress on the peninsula.

For North Korea to actively want to change their behavior, they will have to comply with international norms and expectations proactively and voluntarily, including norms on weapons of mass destruction and missiles. To do this, the two Koreas would have to rely on third party mediation or a general multilateral approach. This could be done via directing economic sanctions, pressure from the UN, further economic aid and security assurance towards the north to incentivize cooperation.[11] North Korea should also realize that in order to avoid conflict in the future, they need to be more proactive and innovative in their interactions with South Korea. Honoring agreements and actively seeking solutions will cultivate a positive relationship with South Korea, subsequently leading to more successful peaceful negotiations and cooperation between the two states.

APPROACH 2:

The Moonshine Policy

The Sunshine Policy, which not only aimed to promote cooperation and economic aid, was also intended to open long-lost communications, rebuild railways, encourage tourism, and reunite separated families. However, due to the North using the extra aid money to continue their development of nuclear weapons, the policy was officially abandoned in 2010. Following the election of current president Moon Jae-In, South Korea has shown a renewed interest in revisiting the Sunshine Policy.[12] More specifically, Moon Jae-In has displayed his commitment in engaging with the north through efforts to dig up landmines in the DMZ, a goal that would have been supported by the Sunshine Policy if it were still in effect today.[13] Due to the president's commitment to reinvigorating feelings towards cooperation, his version of the Sunshine Policy has become informally known as the "Moonshine Policy."

Whereas the Sunshine policy focused more on the economic status of the peninsula, the Moonshine Policy has potential for a broadened, cultural emphasis with it relying more on positive interactions as opposed to money exchange.[14] However, the first step that needs to be taken for this policy to be effective is to formalize it. After formalization, the two Koreas can focus on engaging each other with a positive mindset. The Moonshine Policy, if nothing else, will supply a platform for the two Koreas to discuss cooperation in a public manner, which could help improve agreements and business deals in the future. The Moonshine Policy could prove instrumental in facilitating cooperation between the Koreas moving forward.

APPROACH 3:

Communication Between Separated Families

When the border was officially drawn at the 38th Parallel in 1953, it separated families trying to flee to either side of the peninsula during the Korean War. Shortly after the divide, contact with family members on the other side was strictly forbidden and punishable by law, burgeoning a sense of unresolved grief in many

10 Chung-In Moon, and Tae-Hwan Kim. "SUSTAINING INTER-KOREAN RECONCILIATION: NORTH-SOUTH KOREA COOPERATION." *The Journal of East Asian Affairs* 15, no. 2 (2001): 203-45.

11 Kim, Suk Hi, and Mario Martin-Hermosillo. "The Effectiveness of Economic Sanctions Against a Nuclear North Korea." *North Korean Review* 9, no. 2 (2013): 99-110. Accessed April 5, 2021. http://www.jstor.org/stable/43908923.

12 Kang, David C. "A New President Aims to Change South Korea's Course." *Current History (1941)* 116, no. 791 (2017): 217-22.

13 Sang-hun, Choe. "Koreas Start Clearing Land Mines at DMZ in Effort to Ease Tensions." The New York Times. The New York Times, October 1, 2018. https://www.nytimes.com/2018/10/01/world/asia/koreas-land-mines-dmz.html.

14 Levin, Norman D., and Yong-Sup Han. "THE SUNSHINE POLICY: PRINCIPLES AND MAIN ACTIVITIES." In *Sunshine in Korea: The South Korean Debate over Policies Toward North Korea*, p. 27-28. Santa Monica, CA; Arlington, VA; Pittsburgh, PA: RAND Corporation, 2002. Accessed April 6, 2021. http://www.jstor.org/stable/10.7249/mr1555capp.9

Korean families.[15] Then, in the 2000s, former South Korean president Kim Dae-Jung and North Korean Leader Kim Jung-Il attempted to remedy this by agreeing to host reunions for the divided families. However, many families reported enhanced grief from these exclusive and brief reunions.

Facilitating communication between the remaining separated families on the Peninsula would confirm a sense of togetherness between all Korean citizens. It would send the message that even though the Korean Peninsula is still in conflict, the people's familial ties are still intact. One possible outlet to facilitate this would be to have a third-party entity sponsor an exchange of letters, alleviating potential tensions that could arise via a bilateral transaction. In the past, the two states have relied on the Red Cross and other topic-specific Non-Governmental Organizations. A return to these organizations might prove the exchange to be more effective and efficient. In addition to this, the inclusion of telephone calls or voice memos is another viable form of communication, one that could appeal to North Korea through the option of screening and monitoring.[16] This exchange of letters and phone calls has potential to lead to more reunion meetings down the road, helping in North and South Korean cooperation overall.

APPROACH 4:

Joint Sports Facilitation

North and South Korea have been actively participating in the Olympics for several decades, with the South joining in 1948 and the North in 1964. However, the two states maintained an underlying rivalry and tension throughout the games. Then, in 2018, Athletes from the two Koreas marched together under a unified flag in the opening ceremony of the Winter Olympics. They also facilitated an all-women's joint hockey team which boasted athletes from both the North and South.[17] This spurred South Korea expressing a desire to continue warm relations with North Korea in the Olympic games going forward. When asked about the Koreas' joint participation in the Olympics, South Korean president Moon Jae-In stated, "I believe our people and people around the world will be moved while watching such a sight... It will also mark a good start to improving South-North ties for the future."[18]

The Olympics could pose to be a neutral means for the Peninsula to interact with each other in a relatively civil capacity. The two Koreas would benefit from the cultivation of more joint sports teams in the future, encouraging a unified mentality and helping North and South Korean citizens to form a general comradery. The same would be said for the development of a Korean National Sports team or league of any kind, especially when deployed at the international level. This positive public approval has the potential to lead to more positive interactions between the two states henceforth. Using sports as a bridge could prove invaluable to the cooperation of North and South Korea as a whole.

APPROACH 5:

Reopening the Kaesong Industrial Complex

The Kaesong Industrial Complex (KIC), is an industrial park located just outside the inter-Korean border on the North side, positions itself as one of four special economic zones on the peninsula.[19] It supports a joint deal in which

15 Boo, Daniel, and Duck Lee. "DIVIDED KOREAN FAMILIES: WHY DOES IT TAKE SO LONG TO REMEDY THE UNHEALED WOUNDS?" *Korea Journal of Population and Development* 21, no. 2 (1992): 145-74. Accessed April 5, 2021. http://www.jstor.org/stable/43783259.

16 Foley, James. *Korea's Divided Families*. London: Routledge, 2003.

17 "PyeongChang 2018." International Olympic Committee, March 22, 2021. https://www.olympic.org/pyeongchang-2018.

18 Fifield, Anna. "Koreas Plan Olympic First with Joint Women's Hockey Team. But Many in the South Are Not Happy." The Washington Post. WP Company, January 17, 2018. https://www.washingtonpost.com/world/olympics/koreas-plan-olympic-first-with-joint-womens-hockey-team-but-many-in-the-south-are-not-happy/2018/01/17/5066040c-fb90-11e7-b832-8c26844b74fb_story.html.

19 Kim, Suk Hi, and Eul-Chul Lim. "The Kaesong Inter-Korean Industrial Complex: Perspectives and Prospects." *North Korean Review* 5, no. 2 (2009): 81-92. Accessed April 6, 2021. http://www.jstor.org/stable/43908719.

South Korea receives cheap, skilled Korean labor, while North Korea benefits from some $90 million per year in salary payment.[20] As of 2012, the complex hosted 123 South Korean companies employing 50,000 North Korean people to make clothing, electronics, chemicals and metals.[21] The KIC, however, is prone to shutting down during times of particularly tense inter-Korean relations. In 2016, The South Korean Ministry of Unification announced a temporary closing of the complex in response to North Korean provocations and has yet to reopen.[22] South Korean president Moon Jae-In now actively seeks to reopen and expand the region, urging South Korean companies to invest in the various special economic zones on the peninsula, starting with the KIC.[23]

Reinvigorating efforts towards the Kaesong Industrial Complex would not only broaden and enhance economic relations between North and South Korea, but also promote a more stable and cooperative coexistence between the two Koreas. To do this, big businesses and other conglomerates would have to readily be able to invest in the reopening or show interest in doing so. With the support of businesses, talks can begin on the specific necessities required to reopen the KIC park, presenting an opportunity to address any current concerns and prevent future halts down the line.

APPROACH 6:

Peninsula Wide Pop Culture Exchange

One aspect of the split between North and South Korea that goes unnoticed is the toll it has taken on how citizens from both sides view each other. In a 2017 Asan Annual Survey, officials found when breaking down South Korean views of North Korea by age group, that individuals in their 20s are more likely to have hostile and indifferent feelings towards North Korean peoples. In 2017, half of the respondents in their 20s, about 49.3%, considered North Korea as either a "stranger" or an "enemy."[24] One way that would potentially remedy these numbers is an exchange in pop culture throughout the peninsula.

Korean citizens from both sides could likely establish sentiments towards each other if they transferred culture through music, fashion, or movie trends. An example of this would be the 2018 Spring Is Coming concert that was held in Pyongyang, North Korea, with the event hosting a handful of influential South Korean artists.[25] The concert was considered an important cultural visit, integral to easing tensions between the two Koreas in 2018. For this reason, the exchange of music and other pop cultural devices is a necessary step to be taken when considering positive exchange between North and South Korea. Holding more inter-Korean concerts would entice the citizens of both the North and South to establish a modern-day cultural connection, something that the younger generations are ultimately lacking in. This culture exchange could help make facilitation of cooperation an easier process to tackle when citizens of both sides have a common cultural interest invested in the other side.

APPROACH 7:

Establish a Dorasan DMZ Train Exhibition

The Dorasan Train Station, situated just south of the inter-Korean border, plays host to the last commuter stop of the DMZ Train on the Gyeonggi Line. This railway connects the two

20 Park, Sei Hee. "Stopping the Madman: Lessons from the Kaesong Industrial Complex." *Pepperdine Dispute Resolution Law Journal* 15, no. 3 (2015): 639.

21 Cronin, Patrick M. Report. Center for a New American Security, 2012. Accessed April 6, 2021. http://www.jstor.org/stable/resrep06355.

22 Leif-Eric Easley. "KAESONG AND THAAD." *World Affairs (Washington)* 179, no. 2 (2016): 21-27.

23 Moon Jae-in's grand design for the Korean peninsula. (2018, September 18). Retrieved April 06, 2021, from https://www.economist.com/the-economist-explains/2018/09/18/moon-jae-ins-grand-design-for-the-korean-peninsula

24 Jiyoon Kim, Kildong Kim, Kang Chungku, Figure 2, "South Korean Youths' Perceptions of North Korea and Unification," The Asan Institute for Policy Studies, April 20, 2018, http://en.asaninst.org/contents/43527/.

25 "Kim Jong-Un 'Moved' by K-Pop Peace Concert in Pyongyang." BBC News. BBC, April 2, 2018. https://www.bbc.com/news/world-asia-43616772.

capitals of the peninsula, Seoul and Pyongyang, together. However, a train has not crossed the border in over 10 years as tensions are prone to fluctuating and cooperation on the peninsula is erratic. Instead, the Dorasan Train Station, and likewise the DMZ train, position themselves as symbolic gestors of hope for an eventual reunification between the two states.

One way the train station could lend itself to facilitating cooperation is to have an annual Train Show, or a symbolic sending of the DMZ train across state lines. This sees Dorasan as a device to demonstrate a willingness from both sides to cooperate. Unification Minister Cho Myoung-Gyon has addressed this matter by saying: "Through the connected railways, South and North Korea will prosper together and solidify peace on the Korean Peninsula."[26] Hosting an annual Dorasan Train show would do just that while also demonstrating a vested interest from both sides to continue easing political tensions with the hope of one day seeing the train station back in operation. Moreover, this annual show has the capacity to spearhead a Trans-Korean Railway, which could potentially open opportunity for tourism, the transfer of goods and services and promote economic expansion.[27] If nothing else, allowing an annual Dorasan Train show would symbolically help establish the two Koreas' desire to one day end the war and be on good terms which could, in turn, help in facilitating cooperation down the road.

RECOMMENDED SOLUTION:

Bilateral Efforts and Encouraging Cooperation on the Part of North Korea

Facilitating effective cooperation between North and South Korea is going to prove key in easing tensions throughout all East Asia. However, this cooperation will be largely dependent on South Korean led efforts. North Korea's current spontaneous behavior limits them to a reactionary position, leaving South Korea to initiate these potential interactions. The best approach for this Inter-Korean cooperation is through the peninsula effectively establishing and promoting bilateral, civilian motivated courses of action. Inter-Korean pop culture exchange, coupled with active joint sports ventures creates this exact opportunity. By overcoming domestic division, the two Koreas can forge like identities, enabling an overlook of ideological lines, and ultimately allowing the peninsula to peacefully coexist. Moreover, bilateral avenues enable opportunity for cooperation in broader economic and social fields. This calmness on the Korean Peninsula would lead to loosened tensions throughout many East Asian states by mitigating concern over North Korea's spontaneity in military actions and other international aggressions.

Due to the everchanging political climate of the Korean Peninsula, politicly charged agreements are subject to scrutiny and suspicion due to North Korea's tendency to break positive relation streaks. Having institutions in which the two Koreas have a platform to interact in a non-political way will prove invaluable to continuing progress on the peninsula. The Olympics and music concerts set the perfect stage for this interaction. It gives both North and South Korea reason to cheer for something in common, encouraging citizens of both states to look past political differences and forge a sense of comradery. Athletes and music celebrities—along with other notable artists— have the unique platform to advocate and fight for peaceful interactions on the Korean Peninsula by facilitating cooperation through public outreach. These civilian motivated avenues, while nearly non-political in nature, would allow for a positive change in the peninsula's mentality on peaceful coexistence. This movement would, in turn, sway South Korean politicians' actions regarding inter-Korean exchanges. North Korean leaders would also be pressured to keep their word to prevent a potential civilian uprising or the like.

26 Kuhn, Anthony. "South Korea Sends 1st Train In Plan To Reconnect With North." NPR. NPR, December 5, 2018. https://www.npr.org/2018/12/05/672305891/south-korea-sends-first-train-in-plan-to-reconnect-with-north.

27 Lee, Minha; Chung, Suh-Yong. 2020. "Is Trans-Korean Railway Solely a Symbol of Peace in the Korean Peninsula?" *Sustainability* 12, no. 23: 9815. https://doi.org/10.3390/su12239815

However, before any attempts at cooperation can be made, it is imperative that North Korea's participation be confirmed. With North Korea's unpredictable behavior towards international policy, their commitment to cooperation is something that will either hinder or empower the peninsula's progress towards peaceful relations. While bilateral avenues are a path to facilitating effective cooperation, multilateral routes would be a beneficial first step in getting North Korea to adhere to international norms. Supplying more economic aid and further security assistance is something that could entice North Korea to want to participate effectively in the international dialogue. This would also serve to alleviate tension in East Asia concerning the North's compliance. The approach of utilizing bilateral, community motivated courses of action, coupled with an assured participation from North Korea, will serve to facilitate further cooperation effectively and efficiently between North and South Korea moving forward. 🌍

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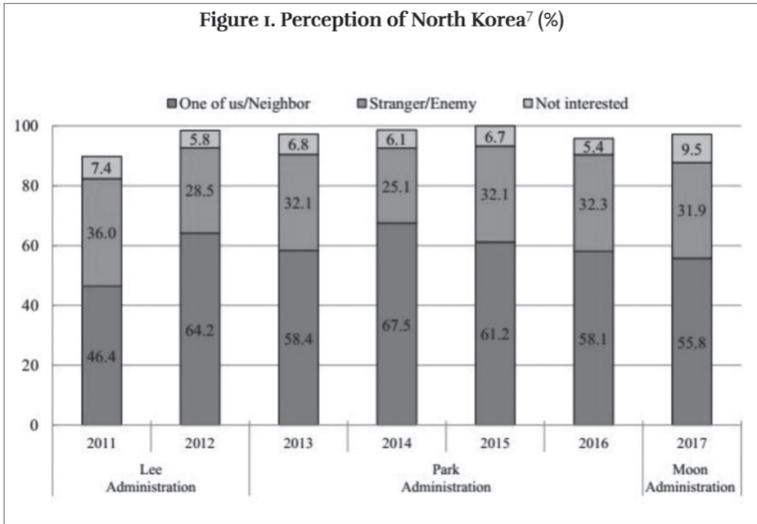
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Liberty in North Korea. Retrieved April 06, 2021, from https://www.libertyinnorthkorea.org/

McCann, D. R., & Asia Society. (1997). Korea briefing : toward reunification. M.E. Sharpe. https://alliance Yoon, Dae-Kyu, and Moon-Soo Yang. "INTER-KOREAN ECONOMIC COOPERATION FOR NORTH KOREAN DEVELOPMENT: FUTURE CHALLENGES AND PROSPECTS." Asian Perspective 29, no. 3 (2005): 5-30. Accessed April 6, 2021. http://www.jstor.org/stable/42704512.

28

Figure 1. Perception of North Korea[7] (%)

29

Figure 2. Perception of North Korea by Age[9] (%)
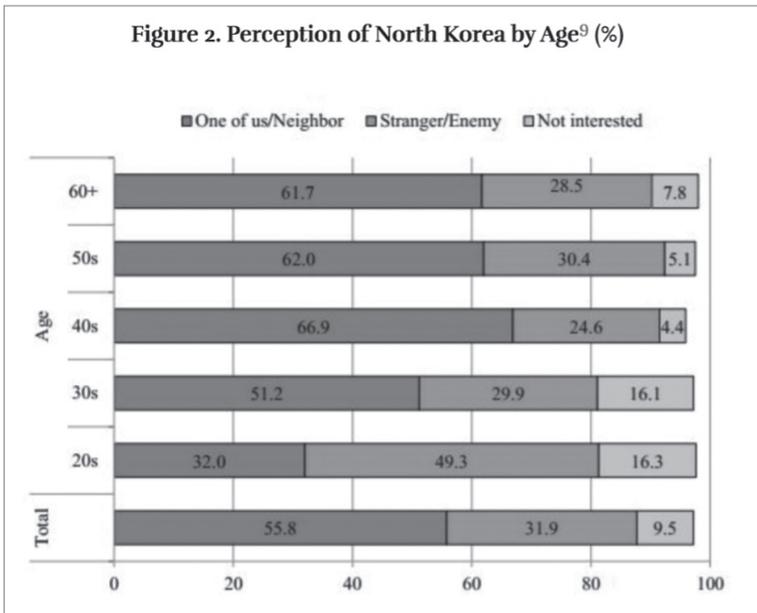
28 Jiyoon Kim, Kildong Kim, Kang Chungku, Figure 1,
   "South Korean Youths' Perceptions of North Korea and
   Unification," The Asan Institute for Policy Studies, April
   20, 2018, http://en.asaninst.org/contents/43527/.

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Managing Orbital Debris in Low Earth Orbit

– Dana Kenow

ABSTRACT:

The accumulation of space debris in low Earth orbit actively affects all members of the international community. As governments and privatized companies utilize low Earth orbit for satellite storage, commercialism and space exploration, the accumulation of debris rises constantly. Collisions, explosions and debris from mission operations impose threats to the safe exploration of outer space. The adoption of five major international space treaties creates regulations for space related activities, however, lacks guidelines in regard to debris mitigation. It is critical that the international community takes action immediately, as the exploration of space is threatened with the accumulation of orbital junk in low Earth orbit. This paper explores five feasible ways to tackle the space debris problem in low Earth orbit effectively. The recommended solution consists of a combination of active debris removal, post-mission disposal, and laser orbital debris removal systems.

BACKGROUND INFORMATION:

Advances in technology and new knowledge make outer space an attractive area of exploration for the international community. The United Nations adopted five major international outer space treaties, outlining the rules and regulations for space related activities. The adopted conditions express that all humans are free to explore outer space so long as operations remain peaceful and meaningful.[1] An issue found within the adopted treaties is the absence of debris mitigation. The lack of regulations results in the accumulation of satellites in orbit,

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1   *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies,* New York, 19 December 1966, (General Assembly resolution 222 (XXI), annex)
https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html

because governments and private companies find commercial, educational and military value in their operation. Currently, over 800 working satellites preside in low Earth orbit (LEO), over half of which belong to the United States. Among these working satellites, over 3,000 have no use or are considered dead.[2] The accumulation of broken and in-use satellites greatly contributes to the issue of space debris in low Earth orbit. Low Earth orbit stands at an altitude between 1000 km and 160 km above the Earth's surface and has more available routes, making it more commonly used than the geostationary orbit (GEO).[3] Space debris, also known as orbital debris and space junk, consists of all human-made objects that have no use or purpose in outer space.[4] There are more than 9,200 tons of debris is space currently, most of which consists of satellites, paint flecks from spacecrafts, and parts of rockets. [5]

The accumulation of space debris in low Earth orbit proves to be a pressing issue in the global community for a variety of reasons. First, a significant presence of debris creates a dangerous or impossible environment in which to enter low Earth orbit. NASA space debris expert Don Kessler observes that once past a certain critical mass, the amount of space debris in orbit continues to accumulate, and collisions will give rise to more debris and lead to more collisions in a chain reaction, known as Kessler Syndrome.[6] Fragments in low Earth orbit reach speeds up to 15 kilometers per second and possess the ability to destroy or damage bodies, creating more debris and threatening

space crafts and satellites.[7] Second, space junk poses potential risk of damage to the ground if the debris survives the Earth's atmospheric re-entry.[8] Organizations in the international community have created guidelines to tackle the issue, such as the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space, but do not hold individual states accountable for their contribution as the documents are not legally binding. A lack of incentives and proper mitigation guidelines contribute to the number of satellites launched into orbit every year. As the accumulation of satellites in space increases, so does the probability of collisions and explosions between satellites, debris, and meteorites. It remains important that the international community focuses on mitigating orbital debris so as to ensure that outer space remains a safe area for exploration.

APPROACH 1:

Post Mission Disposal

Governmental and commercial space companies are responsible for thousands of satellites currently stationed in low Earth orbit. A main contributor to the accumulation of debris is commercial companies and governments that continue to launch satellites into orbit and abandon them when no longer in use. One suggestion is to create a unilateral agreement in which all satellites must reenter Earth's atmosphere or move to a 'graveyard orbit' to alleviate the overcrowding in low Earth orbit. The NASA Orbital Debris Program and the Inter-Agency Space Debris Coordination Committee (IADC) mandates that all spacecraft must either move into a graveyard orbit or deorbit within 25 years post-mission, or 30 years after being

2   Zhao, PengYuan, JinGuo Liu, and ChenChen Wu. "Survey on Research and Development of on-Orbit Active Debris Removal Methods." *Science China Technological Sciences* 63, no. 11 (2020): 2189 https://doi.org/10.1007/s11431-020-1661-7.

3   The European Space Agency. "Types of Orbits." ESA, March 30, 2020. https://www.esa.int/Enabling_Support/Space_Transportation/Types_of_orbits.

4   Garcia, Mark. "Space Debris and Human Spacecraft." NASA. NASA, April 14, 2015. https://www.nasa.gov/mission_pages/station/news/orbital_debris.html.

5   "Space Debris by the Numbers." ESA, January 8, 2021. https://www.esa.int/Safety_Security/Space_Debris/Space_debris_by_the_numbers.

6   The European Space Agency. "The Kessler Effect and How to Stop It." ESA. Accessed April 6, 2021. http://www.esa.int/Enabling_Support/Space_Engineering_Technology/The_Kessler_Effect_and_how_to_stop_it.

7   Garcia, Mark. "Space Debris and Human Spacecraft." NASA. NASA, April 14, 2015. https://www.nasa.gov/mission_pages/station/news/orbital_debris.html.

8   United Nations Office for Outer Space Affairs, *Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space 2010;* (Vienna: United Nations, 2010), available from https://www.unoosa.org/pdf/publications/st_space_49E.pdf

launched.[9] Studies done on the effectiveness of post mission deorbit (PMD) devices such as a drag sail and an electrodynamic tether show an increase in short-term collision probability, while a decrease in the long-term collision probability and expected number of fragments.[10] Large systems are typically equipped with propulsion systems to change their orbits and should perform orbital changes with these systems.[11] Due to the presence of such systems, it proves to be a feasible task for satellite operators to move their satellites while in orbit, but it depends on how they prepare to do so. Mandating operators to install mechanisms which allow for their satellites to deorbit if they do not have the means already ensures that all are moved from LEO into the graveyard orbit or back into the Earth's atmosphere. A decreased number of satellites in the LEO will decrease the probability of more collisions in outer space, thus preventing more debris from accumulating.

APPROACH 2:

Orbital-use fees for satellites

The issue with the accumulation of space debris is not the active satellites in orbit, but the non-maneuverable debris.[12] There lacks incentives for damaged or broken satellites to leave the low Earth orbit, leaving them vulnerable to collisions and contributing more debris. Some professionals suggest that an orbital-use fee is put on all satellites. This is a fee that rises at a rate of 14% per year, equal to roughly $235,000 per satellite per year by 2040.[13] This fee will incentivize satellite operators to factor in the cost to industry of putting satellites into orbit and creating an additional risk[14] therefore reducing potential collisions with a reduced number of satellites launched. The model that Daniel Kaffine, professor of economics at the University of Colorado Boulder proposes, ensures that satellite operators pay the cost of the collision risk imposed on other operators.[15] In order for this method to work, all countries that operate satellites need to actively participate in an international agreement. The fee will be built in with an existing international agreement, such as the Outer Space Treaty, adopted by the General Assembly. With an orbital-use fee, governments and companies look at more factors when launching satellites, to ensure that the cost-to-benefit ratio is reasonable. The fees collected will go toward other debris-reducing projects and research to further alleviate the issue. Further, the long-run value of the satellite industry would increase from around $600 billion to around $3 trillion.[16] This ensures a cleaner space, as with less satellites in the atmosphere, the threat of collision minimizes.

APPROACH 3:

Active Debris Removal

Studies have shown that in a scenario where there potentially would no longer be launches or debris release or explosions in space, the number of debris objects would continue to grow with a rate of once every 10 years.[17] Therefore, the debris accumulation continues to be a problem

9   Kovo, Yael. "Deorbit Systems." NASA. NASA, March 30, 2020. https://www.nasa.gov/smallsat-institute/sst-soa-2020/passive-deorbit-systems.

10 Kawamoto, Satomi, Nobuaki Nagaoka, Tsuyoshi Sato, and Toshiya Hanada. "Impact on Collision Probability by Post Mission Disposal and Active Debris Removal." *First International Orbital Debris Conference* 44, no. 14 (2020): 7–7. https://doi.org/10.1002/fgc.31149.

11 Y. Ariyoshi, M. Zemoura, T. Hanada and S. Kawamoto, "Effect of small satellites' post-mission disposal on sustainable space utilization," *2015 7th International Conference on Recent Advances in Space Technologies (RAST)*, Istanbul, Turkey, 2015, pp. 783-787. doi: 10.1109/RAST.2015.7208446

12 Zhao, PengYuan, JinGuo Liu, and ChenChen Wu. "Survey on Research and Development of on-Orbit Active Debris Removal Methods." *Science China Technological Sciences* 63, no. 11 (2020): 2188–2210. https://doi.org/10.1007/s11431-020-1661-7.

13 Rao, Akhil, Matthew G. Burgess, and Daniel Kaffine. "Orbital-Use Fees Could More than Quadruple the Value of the Space Industry." *Proceedings of the National Academy of Sciences* 117, no. 23 (June 9, 2020). https://doi.org/10.1073/pnas.1921260117.

14 Vergoth, Karin. "Solving the Space Junk Problem." University of Colorado Boulder, May 27, 2020. https://www.colorado.edu/today/2020/05/26/solving-space-junk-problem.

15 Simpkins, Kelsey. "Solving the Space Junk Problem." Phys.org, May 25, 2020. https://phys.org/news/2020-05-space-junk-problem.html.

16 Rao

17 The European Space Agency. "Active Debris Removal." ESA. Accessed April 6, 2021. https://www.esa.int/Safety_Security/Space_Debris/Active_debris_removal.

until the debris that currently occupies the low Earth orbit is removed entirely. A solution to this issue presents the active removal of debris by national space agencies or private companies. Most effectively, a debris removal system will fulfill certain technical, economic, political and legal requirements. This includes the quick development and deployment, reasonable cost-to-benefit ratio, and transparent document, deployment, and operations.[18] Results show that the tethered nets capture removal has the highest comprehensive level at present.[19] Companies demonstrate success with active debris removal systems, as shown with the deployment of the RemoveDEBRIS space mission. This system includes a net and harpoon capture, using vision-based navigation with cameras to launch into debris that will eventually drag the experiment along the Earth's atmosphere to burn down.[20] If the international community utilizes active debris removal, less debris will collide with one another creating smaller fragments. The best solution in this case calls for the international community to encourage the creation of such systems, taking RemoveDEBRIS as a successful example.

APPROACH 4:

Collision Avoidance

When the Chinese satellite Fengyun- 1C was destroyed, it caused the largest increase in debris in space history, contributing to more than 2000 debris fragments equal to or larger than 10cm that have been identified by the US Space Surveillance Network.[21] As the largest contributor to debris, the Fengyun- 1C serves as an example of how the presence of satellites in orbit contributes to debris accumulation. However, satellite operators have the technology to be able to predict the probability of satellite collisions through the position and velocity of all the objects in orbit and is proven to be quite accurate by using the Global Positioning System data.[22] Organizations such as NASA, NorthStar and the European Space Agency have programs which track orbital debris in low Earth orbit. It is essential for improved international collaboration and coordination to ensure that more precise tracking of debris in all of Earth's orbits increases,[23] because as of now no unilateral effective mitigation strategy for collision avoidance (CA) exists.[24] Therefore, individual countries and satellite operators need to track debris and use the installed mechanisms to shift the orbit of their satellites to prevent future collisions.

APPROACH 5:

Laser Orbital Debris Removal System

Organizations, such as NASA, consistently track space debris fragments in low Earth orbit. While debris ranging from 1 to 10 centimeters (cm) can be detected, it is not always done so with sufficient reliability, threatening spacecrafts

18 Ansdell, Megan. "Active Space Debris Removal: Needs, Implications, and Recommendations for Today's Geopolitical Environment." *Princeton*. Accessed April 6, 2021. https://jpia.princeton.edu/sites/jpia/files/space-debris-removal.pdf.

19 Zhao, P., Liu, J. & Wu, C. Survey on research and development of on-orbit active debris removal methods. *Sci. China Technol. Sci.* **63,** 2188–2210 (2020). https://doi-org.uidaho.idm.oclc.org/10.1007/s11431-020-1661-7

20 Aglietti, Guglielmo S., Ben Taylor, Simon Fellowes, Thierry Salmon, Ingo Retat, Alexander Hall, Thomas Chabot, et al. "The Active Space Debris Removal Mission RemoveDebris. Part 2: In Orbit Operations." *Acta Astronautica*168 (March 2020): 310–22. https://doi.org/10.1016/j.actaastro.2019.09.001.

21 Johnson, Nicholas L., E. Stansbery, J.-C. Liou, M. Horstman, C. Stokely, and D. Whitlock. "The Characteristics and Consequences of the Break-up of the Fengyun-1C Spacecraft." *Acta Astronautica*63, no. 1-4 (2008): 128–35. https://doi.org/10.1016/j.actaastro.2007.12.044.

22 Bussy-Virat, Charles D., Aaron J. Ridley, and Joel W. Getchius. "Effects of Uncertainties in the Atmospheric Density on the Probability of Collision Between Space Objects." *Space Weather* 16, no. 5 (April 27, 2018): 519–37. https://doi.org/10.1029/2017sw001705.

23 Carroli, Linda. "Participatory Research and Planning in Practice." *Urban Research & Practice* 14, no. 1 (2021): 107–9. https://doi.org/10.1080/17535069.2020.1868249.

24 Mason, James, Jan Stupl, William Marshal, and Creon Levit. "Orbital Debris- Debris Collision Avoidance" 4, no. 65 (July 19, 2011): 1. https://doi.org/10.31618/esu.2413-9335.2019.4.65.275.

that are unable to avoid these objects. [25] With technological advancements, space debris monitoring systems are more precise, allowing for monitors to develop removal operations that target smaller sized debris. Programs, such as the EU-funded project CLEANSPACE, target debris fragments with a laser pulse, creating a small thrust on the debris by surface ablation. This will change the course of the debris, avoiding collision while starting the process of atmospheric re-entry. [26] Laser orbital debris removal (LODR) systems can deal with both large and small objects and has multiple uses aside from general debris clearing. An LODR system should also prevent collisions and controlling where large debris will impact the surface of the Earth. [27] NASA created a program, Project ORION, that studies the removal of debris with ground-based laser impulses, and fine targeting of debris would be accomplished with laser illumination. [28] International cooperation will be necessary to avoid concerns of the system being a weapon, and to obtain permission to remove large objects.[29]

RECOMMENDED SOLUTION:

Multiple approaches are necessary to overcome space debris accumulation and to ensure that the issue addresses the short-term and long-term needs of removal. It is essential that the larger debris will be immediately removed from low Earth orbit, as with higher volume objects comes the threat of more debris fragments if a collision or explosion occurs. The adoption of a

unilateral agreement is daunting, because with non-legally binding regulations no incentives are created for governments and private institutions to follow. The creation of a legally binding agreement presents an issue because of their track record for being timely, which have record of taking decades to deploy.[30] However, it is essential to ensure that states are held responsible for their contribution to orbital junk. All proposed solutions require some degree of international cooperation. Therefore, a combination of post-mission disposal, active debris removal and laser orbital debris removal is necessary to effectively handle the accumulation of space debris in low Earth orbit.

The implementation of post-mission disposal guidelines into the Outer Space Treaty will tackle the accumulation of satellites in low Earth orbit. The 25-year disposal period will encourage satellite operators to remove their satellites from orbit, thus decreasing the chance of collision with other debris, satellites or meteorites. Technological advances allow for operators to control the satellites reentry to the atmosphere to avoid damage if it impacts the Earth. [31] It is in the best interest to remove non-useful satellites from low Earth orbit while safe to do so.

With no end in sight for satellites in low Earth orbit, an active debris removal approach will alleviate immediate pressure, but has to be consistent for years to come. By removing large objects immediately, the debris that threatens to generate the most fragments in case of collision will be removed from the environment first, as well as decommissioned objects will also be removed, and a controlled deorbit can be executed.[32] International cooperation is necessary to ensure there is permission to remove large objects from orbit. It is important to keep in mind that some means of active debris removal entails additional systems entering

25 Campbell, Jonathan Wesley, and Air University. Center for Strategy Technology. *Using Lasers in Space: Laser Orbital Debris Removal and Asteroid Deflection*. Occasional Paper (Air University (U.S.). Center for Strategy and Technology); No. 20. Maxwell Air Force Base, Ala.: Center for Strategy and Technology, Air War College, Air University, 2000.

26 Compagnie Industrielle Des Lasers Cilas Sa, "European Commission," European Commission, 2014, https://cordis.europa.eu/article/id/90621-laser-technology-to-remove-orbital-debris, 1.

27 Claude R Phipps et al., "Removing Orbital Debris with Lasers," 2011, pp 35, https://doi.org/10.1016/j.asr.2012.02.003, 1-14.

28 Campbell, J. W. "Project ORION: Orbital Debris Removal Using Ground-Based Sensors and Lasers." (1996).

29 Phipps, 13

30 Ansdell, Megan. "Active Space Debris Removal: Needs, Implications, and Recommendations for Today's Geopolitical Environment." *Princeton*. Accessed April 6, 2021. https://jpia.princeton.edu/sites/jpia/files/space-debris-removal.pdf.

31 Yael

32 The European Space Agency. "Active Debris Removal." ESA. Accessed April 6, 2021. https://www.esa.int/Safety_Security/Space_Debris/Active_debris_removal.

orbit. Therefore, a laser orbital debris removal system will eliminate the threat of contributing to the debris, as the operation is controlled from the Earth's surface. Technological advances have allowed for lasers to target small debris very accurately. Thus, a laser would be able to maneuver both large and small objects from orbit effectively.

It is proposed that these three solutions be implemented by the international community immediately to ensure that outer space is a safe area for exploration. The immediate needs of removal will be solved with active debris removal and the use of lasers. Post-mission disposal will ensure long-term responsibility for satellite operators to remove their devices, thus preventing collisions and junk in low Earth orbit. International cooperation and pressure to solve this issue is critical for the future of outer space exploration. 🌍

APPENDICES

Appendix A:

The treaties commonly referred to as the "five United Nations treaties on outer space" [33]

- **The "Outer Space Treaty"**
  - Treaty on the Principles of Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies
  - Adopted by the General Assembly in its resolution 2222 (XXI), opened for signature on 27 January 1967, entered into force on 10 October 1967

- **The "Rescue Agreement"**
  - Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space
  - Adopted by the General Assembly in its resolution 2345 (XXII), opened for signature on 22 April 1968, entered into force on 3 December 1968

- **The "Liability Convention"**
  - Convention on International Liability for Damage Caused by Space Objects
  - Adopted by the General Assembly in its resolution 2777 (XXVI), opened for signature on 29 March 1972, entered into force on 1 September 1972

- **The "Registration Convention"**
  - Convention on Registration of Objects Launched into Outer Space
  - Adopted by the General Assembly in its resolution 3235 (XXIX), opened for signature on 14 January 1975, entered into force on 15 September 1976

- **The "Moon Agreement"**
  - Agreement Governing the Activities of States on the Moon and Other Celestial Bodies
  - Adopted by the General Assembly in its resolution 34/68, opened for signature on 18 December 1979, entered into force on 11 July 1984

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33 Robert Wickramatunga. "United Nations Office for Outer Space Affairs." Space Law Treaties and Principles. Accessed April 6, 2021. https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html.

Appendix B:

Graphic demonstrating the position of the low Earth orbit
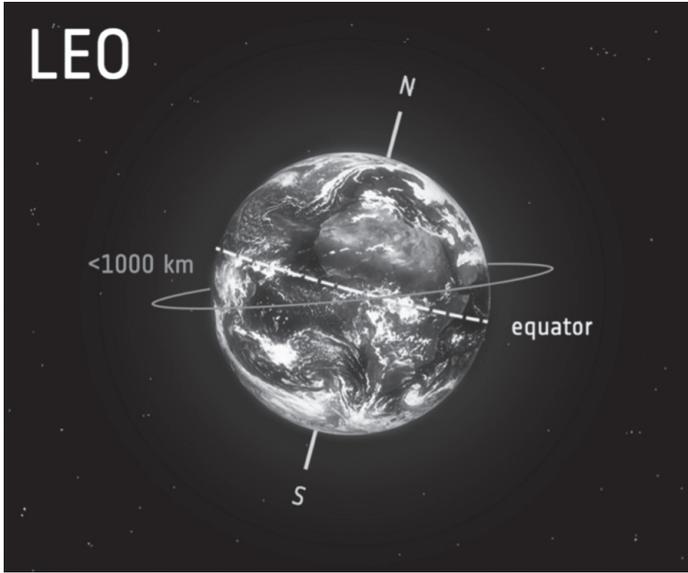
Appendix C:

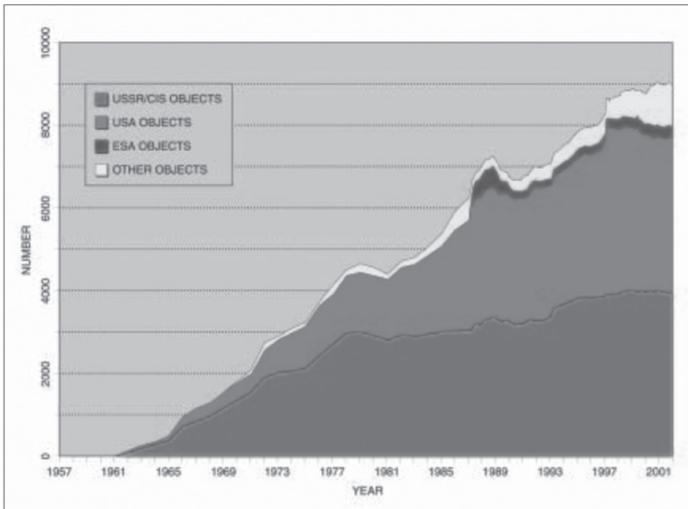Catalogued objects in space from 1957 to 2001[34]

Figure 1. History of catalogued objects in orbit

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34 Leushacke, Mehrholz L, W Fleury, R Jhen, and H Klinkrad.
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Fostering Constructive and Cooperative Partnerships Between European Based NGOs and Their Beneficiaries in Less Developed Countries

– Briana Navarro

ABSTRACT

Non-governmental organizations (NGOs) are widely known throughout the globe. For the most part NGOs, specifically European or Western NGOs, are admired for their non-profit work in less developed countries. However, in recent years their shortcomings have gained attention. Accountability and Western influence have been identified as some of the concerns regarding the work and overall effectiveness of European NGOs in less developed countries. NGOs are vital to capacity building and advocacy, but they must address their faults to conduct meaningful work. Fostering constructive and cooperative partnerships with their beneficiaries in less developed countries is ultimately essential for NGOs and this paper provides various approaches to do so. These approaches include revaluating funding methods, addressing the concept of accountability, NGOs implementing some business-like strategies, and improving the intermediary model when funding CBOs. A multifaceted approach including Approach 3 and 2 is recommended as the best approach to fostering constructive and cooperative partnerships between European NGOs and their beneficiaries in less developed countries.

INTRODUCTION

Non-governmental organizations (NGOs) are recognized as important actors in the international system through their work in development, advocacy, and humanitarian aid. Many states are willing to work with NGOs due to their global recognition and their ability to inform governmental and intergovernmental decision-making organizations about the needs of their communities.[1] The prevalence of NGOs

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1   Tino, Elisa. "Non-governmental Interests in International Regional Organizations." *Legal Aspects of International Organizations*. (Leiden ; Boston: Brill, 2018): 181

based out of Europe working in continents with less developed countries[2] is becoming more widely accepted especially in times of crisis because many governments are unable to provide their citizens and communities with many of the services that NGOs can. The specific roles of NGOs vary- some may be charitable, others may be empowerment and/ or development oriented.[3] Regardless of their roles and perceived benefit, NGOs based out of developed countries, like those in Europe, are criticized for their failure to provide proper aid to communities in less developed countries.[4]

Subjective assessments regarding the work and impact of NGOs have raised skepticisms about their effectiveness largely due to the inability to properly measure their impact on a community. [5] European NGOs are perceived to push Western principles and ideology on the communities they serve in less developed countries. The push of Western principles and ideology may be a consequence of the funding NGOs accept, especially if that funding is coming from government aid programs pushing their own agendas, such as with the European Union's efforts to channel relief aid through NGOs.[6] Swedish NGOs working in Bangladesh in the late 1990s were being funded directly by the Swedish International Development Authority (SIDA) and although they were working closely with local civil societies, Swedish NGOs arrived with their own agendas, implementing services that only they found to be important.[7] Additionally, arguments have been made asserting that NGOs are becoming

more business-like due to their modernist ideology[8] and their inclination to follow the money. This argument can be observed in the way NGOs will often simplify their needs and their missions to enhance their appeal to possible donors.[9] Unfortunately, donors often want rapid and tangible results which can bring NGOs to push for "quick fixes" or nonessential work.[10] Many of these issues bring up concerns regarding accountability, specifically concerned with who NGOs are primarily accountable to.

Despite their shortcomings, many people around the world rely on the aid and the services provided by NGOs. The reach of NGOs is undeniable, and their work is essential in addressing the issues that plague communities in less developed countries.[11] To say that there have been some failures or inadequacies from certain NGOs is not to say that NGOs have failed in their entirety. But to ignore these failures and inadequacies could produce the risk of a comprehensive failure in the future. Recognizing the strengths and the weaknesses of NGOs will help guide us to the solutions that are necessary for improved development. Subsequently, this paper will identify recommendations to improve constructive and cooperative partnerships between NGOs and the communities they serve in less developed countries.

APPROACH 1:

Reevaluating the Way Donors Fund NGOs

Donor priorities are constantly changing, meaning that funding for NGOs is not always guaranteed, often forcing NGOs to shift their priorities to appease donors.[12] The partnerships between donors and NGOs often create a power

2   See Appendix A

3   Lewis, David, Nazneen Kanji, and Nuno S. Themudo. "Non-governmental Organizations and Development." *Routledge*, (2020): 4

4   Schuller, M. "Seeing like "Failed" NGO: Globalization's Impacts on State and Civil Society in Haiti." *PoLAR: The Political and Legal Anthropology Review, 30(1),* (2007): 67-68.

5   Ahmed, Shamima,. "The Impact of NGOs on International Organizations: Complexities and Considerations." *Brooklyn Journal of International Law,* (2011): 817

6   "Special Article: NGOs: Sins of the Secular Missionaries*," The Economist,* (2000): 25-27

7   Lewis, David, Sobhan, Babar, "Routes of Funding, Roots of Trust? Northern NGOs, Southern NGOs, Donors, and the Rise of Direct Funding". *Taylor and Francis,* (1999): 120

8   Schuller, M., "Seeing like "Failed" NGO", 67

9   Bob, Clifford, Merchants of Morality. *Social Policy* 32, no. 4 (2002): 37.

10 Christensen, Jon. "Asking the Do-Gooders to Prove They Do Good." *The New York Times*. (2004) nytimes. com

11 Clarke, Gerard, "Non-Governmental Organizations (NGOs) and Politics in the Developing World". *Political Studies* 46, no. 1 (1998): 42-43

12 Khieng, S., Dahles, H. "Resource Dependence and Effects of Funding Diversification Strategies Among NGOs in Cambodia." *Voluntas* 26, (2015)

imbalance where donors often have a greater say in what kind of work is carried out by the NGOs and how that work shall be carried out.[13] In order to properly assist communities in less developed countries in ways that they deem necessary, donors can take a step back and allow NGOs to work without the pressure and hindrances they have regularly instilled. Donors can mitigate the detrimental impact they may have on NGOs and their projects simply by resisting the temptation to insert themselves in work they are inexperienced in.[14] Additionally, if the threat of short-term funding was eliminated, there would be less pressure on NGOs to implement quick fixes. Guaranteed long-term funding would allow them to implement efficient and long-standing solutions.[15] Governmental and intergovernmental funding has been proven to be efficient in providing long-term funds, allowing NGOs to utilize these funds effectively.[16] This can be exemplified by looking at the different European Union's funding sources such as the European Social Fund Plus (ESF+), the Creative Europe Programme, and through regional aid programs throughout Europe.[17] Even so, NGOs must be conscious of the influence of their donors on the work they are conducting. NGOs should be able to implement their work through their own means, using their methods and experience without constantly being micromanaged by their donors.

APPROACH 2:

Establishing Primary Accountability to Beneficiaries

NGOs are accountable to various stakeholders making it difficult to prioritize whom they are primarily accountable to.[18] Notable failures of NGOs, like that of humanitarian NGOs in Rwanda in 1994,[19] have forced NGOs to examine their accountability, or lack thereof. NGO accountability is an important concern because European NGOs are regularly claiming to represent people in less developed communities.[20] In order to put forth essential development, advocacy, and relief services, NGOs must focus their primary accountability to the communities and citizens they are serving in less developed countries. Transparency and accountability to beneficiaries can be guaranteed through information gateways[21] and reports that are made easily accessible to beneficiaries. This recommendation promotes greater legitimacy for NGOs by verifying that they are representing the people they serve and effecting proper communication with them as well.[22] This is very pertinent to European NGOs and other Western NGOs, seeing as they have a large presence in less developed countries due to their monopoly over capital.[23] Donors and NGOs should refrain from assuming that they know what is best for a community and instead work towards creating equitable partnerships with beneficiaries and local civil societies. For these partnerships to operate properly, the voice of beneficiaries must be prioritized,[24] creating spaces for community members to voice their opinions and concerns to NGOs. Improved communication and transparency will be key components of the prospective improved partnerships among NGOs and beneficiaries.

13 O'Brien, N.F., Evans, S.K. "Civil Society Partnerships: Power Imbalance and Mutual Dependence in NGO Partnerships". *Voluntas* 28, (2017).

14 Parks, Thomas. "The Rise and Fall of Donor Funding for Advocacy NGOs: Understanding the Impact." *Development in Practice* 18, no. 2 (2008): 220

15 Ibid. 214

16 Lewis and Sobhan, "Routes of Funding, Roots of Trust?," 122

17 European Commission, (2022): ec.europa.eu

18 Brown, L. David, Alnoor Ebrahim, and Srilatha Batliwala, Governing International Advocacy NGOs. *World Development* 40, no. 6 (2012): 1100

19 Christensen, Jon, Asking the Do-Gooders to Prove They Do Good." The New York Times. The New York Times, January 3, (2004). nytimes.com

20 Anderson, Kenneth. "What NGO Accountability Means—And Does Not Mean." *The American Journal of International Law* 103, no. 1 (2009): 174

21 Ebrahim, Alnoor. "Making Sense of Accountability," 202

22 Brown, et al., Governing International Advocacy NGOs, 1101

23 Goddard, Andrew. "Accountability and accounting in the NGO field comprising the UK and Africa–A Bordieusian analysis." *Critical Perspectives on Accounting* 78 (2021).

24 Ebrahim, Alnoor. "Making Sense of Accountability: Conceptual Perspectives for Northern and Southern Nonprofits." *Nonprofit Management & Leadership* 14, no. 2 (2003): 203

APPROACH 3:

Balancing Business-Like Approaches with the Charitable Basis of NGOs

NGOs are becoming more business-like[25] through various dimensions including using business-like rhetoric, business-like organization, and implementing business-like goals.[26] In this regard, NGOs would function using corporate management knowledge and practices like marketization, managerial professionalism, and promoting consumerism.[27] It has been recognized that when NGOs implement business-like approaches within their structures, it can impact their ability to provide meaningful aid in less developed countries.[28] A business-like approach can be beneficial in attaining rational knowledge and skills, but this approach may also result in the devaluation of other knowledge and skills such as empathy, culture, and religion.[29] Even so, NGOs require funding to operate, and implementing some business-like facets may be useful in diversifying their sources of financial support.[30] NGOs must determine in what aspects of their structure they can implement business-like frameworks while refraining from behaving like a full on for-profit business and while focusing their resources on their beneficiaries. Necta, a non-profit organization located in northern England, has successfully shifted their structure to incorporate business-like features to bypass the influence of their donors and their unreliable funding.[31] When NGOs are able to find a balance between business-like approaches and non-profit responsibilities, they are able to self-sustain their projects and missions. Rather than focusing on partnerships with their donors, they can focus on partnerships with their beneficiaries assuring that their needs are met, rather than the interests of a third party.[32]

APPROACH 4

Improving Funding Partnerships Between Intermediary NGOs and Community-Based Organizations (CBOs)

National and international NGOs with more capacity often take on the role of donor intermediaries when funding community-based programs.[33] This method has been successful in supporting community-based organizations (CBOs)[34] by providing them with funding, helping them reach large populations, and boosting CBO credibility.[35] However, this method has been critiqued as ineffective because these intermediary NGOs are often taking away money and resources from CBOs. Additionally, CBOs are often excluded from the negotiation of terms and conditions of contracts with donors.[36] Looking at the prevention and treatment of HIV/AIDS in Ghana we see that the intermediary model was identified as valuable, but they also identified some drawbacks associated with this model. Some of those drawbacks include funding being withheld from CBOs for long periods of time, insufficient salaries for CBO staff, and short-term funding projects.[37] To address these drawbacks and guarantee that the intermediary model is

25 See Appendix B

26 Maier, Florentine, Michael Meyer, and Martin Steinbereithner. "Nonprofit Organizations Becoming Business-Like: A Systematic Review." *Nonprofit and Voluntary Sector Quarterly* 45, no. 1 (February 2016): 69

27 Ibid. 70

28 Bailis, Rob, Amanda Cowan, Victor Berrueta, and Omar Masera. "Arresting the Killer in the Kitchen: The Promises and Pitfalls of Commercializing Improved Cookstoves." *World Development* 37, no. 10 (2009)

29 Maier, et al. "Nonprofit Organizations Becoming Business-Like," 77

30 Mikołajczak, Paweł. "Becoming Business-Like: The Determinants of NGOs' Marketization Turning into Social Enterprises in Poland." *Oeconomia Copernicana* 10 (3) (09) (2019): 559.

31 Aiken and Ingo. "Killing the Golden Goose?" 219

32 Ibid. 221

33 Rama, S., G. Boyce, and M. Ramdeen. "Not a penny more, always a penny less: barriers to the distribution of funds to OVC through existing funding channels." (2007): 5

34 Community-based organization: a public or private non-profit organization of demonstrated effectiveness that is representative of a community or a significant segment of a community. law.cornell.edu.

35 Hushie, Martin, Cephas N. Omenyo, Jacob J. van den Berg, and Michelle A. Lally. "State-civil society partnerships for HIV/AIDS treatment and prevention in Ghana: exploring factors associated with successes and challenges." *BMC Health Services Research* 16, no. 1 (2016). *Gale Academic OneFile* (accessed May 11, 2022): 7

36 Ibid. 8

37 Ibid. 7,8

utilized effectively, CBOs must be involved in the negotiation of funding contracts. When CBOs are considered in these negotiations, they can leverage better funding measures for their organizations, as well as hold intermediary NGOs and donors accountable to the standards laid out in the contracts.

RECOMMENDED APPROACH

As many countries continue to evolve and progress, other less developed countries and communities are left behind. NGOs have been able to step in, becoming crucial actors in the development of communities in less developed countries.[38] There have been both successes and failures which can be referenced in the process of understanding how to improve the overall relationship between European NGOs and their beneficiaries. NGOs working in Iran have proven to be effective through their work and specific projects dedicated to health, women, the environment, children, etc.[39] Moreover, the failures of NGOs in Haiti have raised genuine concerns regarding the legitimacy of NGOs and their commitment to helping those in need.[40] This paper has observed the efforts and struggles of European NGOs working in less developed countries. The analysis found that to foster constructive and cooperative relationships between European NGOs and the communities they serve in less developed countries, a multifaceted approach that encompasses the proposed approaches 3 and 2 must be effected.

Instituting Approach 3 is principal because once NGOs are able to find a balance between business-like strategies and their non-profit basis, they are able to self-sustain their projects and mission. This will allow NGOs to form better partnerships with their beneficiaries because they are not as busy trying to form relationships with donors. In this regard, long-term projects will be more feasible, NGOs will be able to implement projects without being micromanaged by donors, and the relationships between large European NGOs and CBOs can potentially be improved as well. NGOs can provide direct funding to CBOs rather than acting as the intermediary between donors and CBOs. Additionally, arguments have been made in support of NGOs financing themselves using business-like means and this has been proven successful with the distribution of improved cookstoves in Mexico where we saw a shift in favor of market solutions and social entrepreneurship.[41] This example made a case for a balanced approach between business-like and non-profit approaches.

Through the principal implementation of Approach 3, Approach 2 can be applied subsequently. Relying on donor funding is one of the biggest barriers to NGOs working in less developed countries.[42] Once this dependency is diminished NGOs can devote primary accountability to their beneficiaries. Development and advocacy work that is important to community members is more likely to be prioritized and implemented. Information gateways[43] and reports that are easily accessible to beneficiaries will be a priority for NGOs to ensure transparency and accountability.

Approaches 1 and 4 will not be necessary if Approaches 3 and 2 are implemented successfully. Putting forth Approach 3 followed by Approach 2 will prove to be effective in building constructive and cooperative partnerships among NGOs and their beneficiaries. Partnerships between NGOs and the communities they serve in less developed countries will be largely improved through the gradual implementation of these two approaches.

38 Bromideh, Ali Akbar. "The widespread challenges of NGOs in developing countries: Case studies from Iran." *International NGO Journal* 6, no. 9 (2011): 198

39 Ibid.198

40 Edmonds, Kevin. "Beyond Good Intentions: The Structural Limitations of NGOs in Haiti." *Critical Sociology* 39, no. 3 (2013): 444
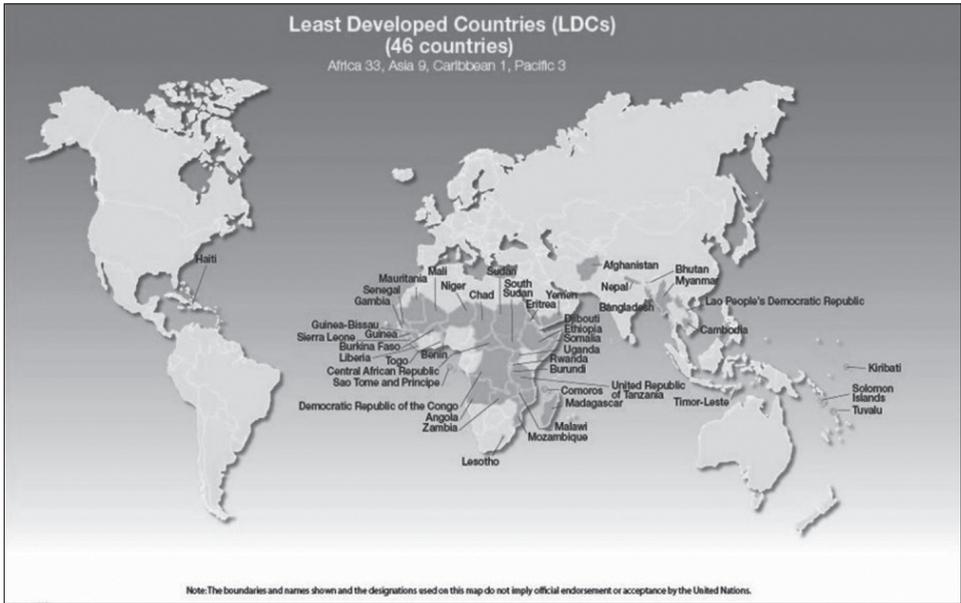
41 Bailis, et al. "Arresting the Killer in the Kitchen: The Promises and Pitfalls of Commercializing Improved Cookstoves."

42 Khieng, S., Dahles, H. "Resource Dependence and Effects of Funding Diversification Strategies Among NGOs in Cambodia."
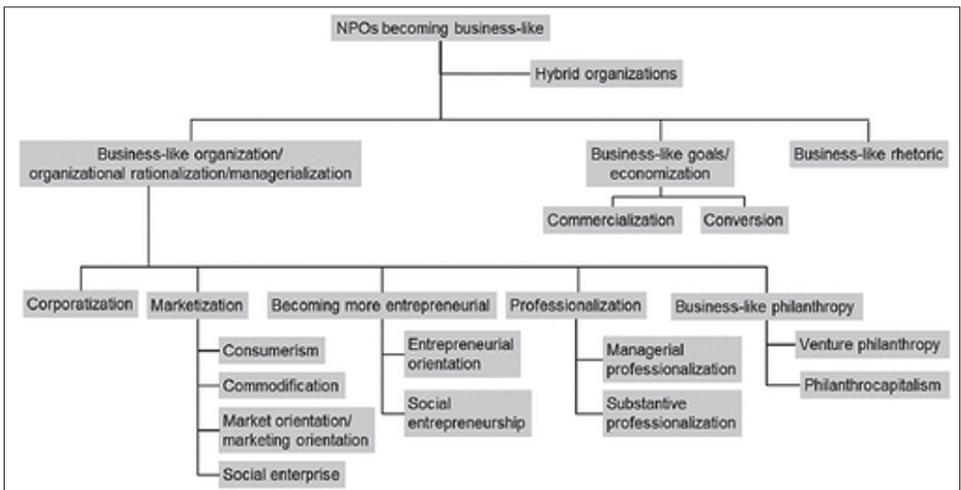
43 Ebrahim, Alnoor. "Making Sense of Accountability," 202

APPENDICES

Appendix A:[44] map of the 46 least developed countries as of 2021 identified by the UN Conference on Trade and Development

Least Developed Countries (LDCs)
(46 countries)
Africa 33, Asia 9, Caribbean 1, Pacific 3

Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Appendix B:[45] Non-profit organizations becoming business-like

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44 "What Are the Least Developed Countries?" UNCTAD, 2021.
unctad.org/press-material/what-are-least-developed-countries-7.

45 Maier, Florentine, Michael Meyer, and Martin Steinbereithner. "Nonprofit Organizations Becoming Business-Like: A Systematic Review." *Nonprofit and Voluntary Sector Quarterly* 45, no. 1 (February 2016): 69

Big Tech: Bridging the Governance Gap

– Natalie Mesplay

ABSTRACT:

Companies in the technology sector have found great success through the growth of the global Internet. A few of the largest companies consolidated vast sums of influential power that now rival that of nation-states themselves. The might of Big Tech companies allows them to exert significant influence over governments as the major players in worldwide communication, as well as data storage and privacy. National governments must grapple with these issues and implement policies to address their global influence. This paper reviews a broad array of potential solutions to this end, including considerations of national, regional, and international strategies. A combination of a regional regulatory framework and multistakeholder agreements along with domestic TechPlomacy-oriented government institutions will empower governments to better approach Big Tech.

INTRODUCTION AND OVERVIEW:

Since the dawn of the Internet, the technology utilizing it to connect the globe has grown exponentially. Specifically, many fledgling technology companies in the early 2000s have become colossuses today, with annual revenues surpassing the GDPs of many states.[1] Big Tech companies like Meta, Google, and

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1   Office of the Tech Ambassador of Denmark, 2018, "#TechPlomacy: How Denmark is Prototyping Foreign Policy," Paper presented at the *Stanford Conference on Prototyping for Policy, Stanford, CA, November 8-10, 2018.* Copenhagen: Ministry of Foreign Affairs of Denmark, https://conferences.law.stanford.edu/prototyping-for-policy/wp-content/uploads/sites/67/2018/11/TechPlomacy-How-Denmark-is-prototyping-foreign-policy.pdf.

Apple[2] possess worldwide importance by virtue of their integral position as the providers and moderators of global communication and interaction. Governments use Meta to provide timely and crucial information on the COVID-19 pandemic,[3] Twitter has increasingly found itself a platform for official government communication with its citizens, as shown by governments like Catalonia posting guides for official Twitter usage,[4] and companies like Google store data for billions of their users across the globe.[5]

National governments must address the large influence of tech companies in ways that are sustainable and balanced to simultaneously create an environment that is amenable for private companies, protective of their citizens, and resistant against governmental abuse of power. Big Tech raises concerns for national governments and their citizens in areas such as cyber security, data privacy, democracy, civil rights, and economic competition.[6] Governments that use Big Tech to communicate, whose servers store data on their citizens, and whose platforms host content that could have harmful effects on their governmental processes have a vested interest in exercising a measure of control over them. These companies also tend to center their main headquarters in tech hubs like Silicon Valley.[7] These clusters of global companies can raise issues for governments, as countries that do not have physical offices within their borders lack the same strategies for control that the United States can access, such as congressional hearings.[8] Small countries that lack size advantage as well have even less recourse to negotiate with Big Tech companies to remove false posts or secure their citizens' data.[9] Lack of control over powerful forces that are omnipresent in their citizens lives threatens states' sovereignty in a fundamental way. In an attempt to mitigate this, powerful groups like the EU put restrictions such as the General Data Protection Regulation (GDPR) in place to protect their citizens' data in 2016,[10] and Australia passed the Sharing of Abhorrent Violent Material Act in 2019 following the livestreaming of a mass shooting in Christ Church, New Zealand.[11]

However, legislation can crush companies and endanger citizens under undue government pressure. Russia introduced a slew of new regulations as recently as February 2022 that force Big Tech to set up offices within the country and limit anti-Kremlin content linked to Ukraine. Companies that don't comply with these landing laws and censorship regulations face slowed service from the government, and Russia has even designated Meta as an

2   Comprehensive list of companies referred to as Big Tech: Alphabet (Google), Apple, Amazon, Meta (Facebook), Microsoft, and more broadly, Twitter. Chinese Big Tech companies like Alibaba and Tencent were not included due to their more limited global influence outside of China.

3   Stan Chudnovsky, "Messenger Partners with Developers to Provide Government Health Organizations with Free Services to Respond to Coronavirus Pandemic," *Meta for Developers*, 2020, https://developers.facebook.com/blog/post/2020/03/23/messenger-partners-developers-provide-government-health-organizations-free-services-respond-coronavirus-pandemic/.

4   Government of Catalonia and Twitter, Twitter Manual for Governments, 2017, https://onthinktanks.org/wp-content/uploads/2017/06/Twitter-Manual-for-Governments.pdf.

5   Douglas C. Schmidt, *Google Data Collection* (Nashville, TN: Digital Content Next, 2018).

6   Robert Fay, "A Model for Global Governance of Platforms," in Regulating Big Tech: Policy Responses to Digital Dominance, ed. Martin Moore and Damian Tambini, (Oxford: Oxford Scholarship Online, 2021): 255.

7   Timothy Bresnahan and Alfonso Gambardella, "Introduction," in *Building High Tech Clusters: Silicon Valley and Beyond,* ed. Timothy Bresnahan and Alfonso Gambardella (Cambridge: Cambridge University Press, 2012): 1.

8   "Big Tech and Democracy: The Critical Role of Congress." *Belfer Center for Science and International Affairs and Shorenstein Center for Media, Politics and Public Policy*, 2019, https://www.belfercenter.org/publication/big-tech-and-democracy-critical-role-congress.

9   Casper Klynge, "Tech giants, small countries, and the future of techplomacy," interview by Khari Johnson, VentureBeat, October 9, 2019, https://venturebeat.com/2019/10/08/tech-giants-small-countries-and-the-future-of-techplomacy/

10 Ben Wolford, "What Is GDPR, the EU's New Data Protection Law?" GDPR.eu. *European Union*, 2022, https://gdpr.eu/what-is-gdpr/.

11 Australian Parliament, Criminal Code Amendment (Sharing of Abhorrent Violent Material) Act 2019, No. 38, 2019.

extremist group.[12] Similar issues present themselves in a multitude of other governments who punished Big Tech companies for removing content favorable to the government.[13] The current state of Big Tech governance merits serious consideration of new approaches to the fundamental issues it raises regarding data privacy, state sovereignty in the tech space, and the power of Big Tech.[14]

POTENTIAL SOLUTIONS:

SOLUTION ONE:

Responsible National Regulation

National regulation is a strategy that many countries began to adopt as Big Tech grew. The General Data Protection Law (LGPD) in Brazil presents a useful example in examining the impact of national regulation. This regulation came into effect in 2020 and affects the entirety of Brazil. The regulation focuses on protecting the average Brazilian citizen against data privacy violations and enables the government to fine companies who don't comply for up to approximately $10.5 million.[15] The legislation also applies to companies who are based outside of Brazil, but have Brazilian customers.[16] In this way, the LGPD extends its

influence and regulatory framework outside of its own borders.

National frameworks that operate similarly can provide an option to countries with large markets but little access to Big Tech headquarters to extend their technology priorities across borders if companies wish to continue doing business there. National regulation also makes violations costly to the company involved. This has the potential to disproportionately affect small to medium businesses, however, as Big Tech companies can afford to take a $10.5 million fine, while smaller companies often cannot keep up.[17] Additionally, uneven national regulation globally risks further balkanization of the Internet. However, it establishes a base of regulation that is amenable to Big Tech operations in the country and simultaneously encourages them to avoid infractions. This framework takes inspiration from a regional regulatory framework, the GDPR in Europe,[18] and provides an example to follow for further countries in South America.

SOLUTION TWO:

Regional Regulatory Frameworks

The General Data Protection Regulation is a regulatory framework created by the EU and is one of the largest and most strict frameworks focused on technology. It is first and foremost a data privacy framework and sets controls for how data can be stored and shared by companies, moderating company activity through data protection officers. The framework establishes fines for violations in the region up to $22 million, or 4% of annual global turnover, whichever is higher.[19] This regulation includes the entire EU region, but further extends beyond EU borders as every company doing business with EU citizens must be compliant.

Regional regulatory frameworks harmonize regulations and general concern about overly powerful Big Tech companies. This is beneficial

12 Lukas Andriukaitis, "Russian War Report: Meta officially declared 'extremist organization' in Russia," *Atlantic Council*, 2022, https://www.atlanticcouncil.org/blogs/new-atlanticist/russian-war-report-meta-officially-declared-extremism-organization-in-russia/.

13 Adrian Shahbaz and Allie Funk, "The Global Drive to Control Big Tech," *Freedom House*, 2021, https://freedomhouse.org/report/freedom-net/2021/global-drive-control-big-tech.

14 Bernard Arogyaswamy, "Big Tech and societal sustainability: an ethical framework," *AI & SOCIETY* 35, no. 1 (Dec. 2020), https://doi.org/10.1007/s00146-020-00956-6.

15 Lemos, Ronaldo, Natalie Langenegger, Julianna Pacetta Ruiz, Sofia Lima Franco, Andréa Guimarães Gobatto, Daniel Douek, Ramon Alberto Los Santos, and Rafael A Ferreira Zanatta, trans. Brazilian General Data Protection Law (LGPD, English translation). *IAPP*, 2020, https://iapp.org/resources/article/brazilian-data-protection-law-lgpd-english-translation/.

16 Richie Koch, "What is the LGPD? Brazil's Version of the GDPR," GDPR.eu, *European Union*, 2022, https://gdpr.eu/gdpr-vs-lgpd/.

17 Ibid.

18 Ibid.

19 Ben Wolford, "What Is GDPR, the EU's New Data Protection Law?" GDPR.eu. *European Union*, 2022, https://gdpr.eu/what-is-gdpr/.

for Big Tech companies who operate globally as it eliminates the need to coordinate different approaches for uneven national level regulation. International frameworks are difficult to enforce as even the most established international organizations, such as the UN, struggle to enforce agreements, and international frameworks are not implementable as the global system stands. Large international regulatory frameworks additionally risk alienating members with lower levels of digitalization. Regional frameworks address this concern and additionally provide the opportunity for similar regional concerns to be included and smaller voices to be heard.[20] Regional frameworks serve to protect areas with large consumer bases, and their laws apply to many companies who may decide to simply enact those changes to their operations worldwide, creating a spillover effect of regulation.[21]

SOLUTION THREE:

Non-Binding Regional and Multilateral Agreements

The EU-US Trade and Technology Council is an example of multilateral cooperation using a broad interpretation of Big Tech regulation. It focuses on not just data privacy, but further on governance and security. This council provides an opportunity to coordinate policies on technology ranging from climate-friendly tech to mitigating the abuse of technology.[22] A different approach to the non-binding regulation avenue is the Association of Southeast Asian Nation's Data Management Framework (ASEAN DMF). The ASEAN DMF provides and coordinates responsible business practices for the management of data that companies

collect.[23] These guidelines can be utilized by any company whether or not they are based in an ASEAN country with additional regulatory frameworks.

Both regional non-binding agreements and multilateral non-binding agreements present a more flexible approach to regulating Big Tech. This strategy relies on a slower timeline and the development of international norms to eventually support this framework. However, because this solution is gradual, the formation of international norms is not assured. This non-binding framework additionally allows for countries and the companies that operate within them to opt out or instate relaxed regulations that still open their citizens and government operations to threats. On the other hand, the non-binding nature allows states to ease into governance of Big Tech. States may also choose to look at these non-binding agreements and use them as guides for future binding national and international regulation.

SOLUTION FOUR:

Landing/localization laws

Countries without the advantage of the presence of tech hubs within their borders occasionally attempt to localize their operations. In early 2022, Russia implemented a law directing large companies to establish offices within Russia.[24] This landing law opened companies who complied to a wider range of punishment via their domestic position if that company took down or interfered with Russian government presence on their platforms. China also implemented localization laws requiring firms to store much data regarding personal and state-gathered information within China's borders. The most recent iterations, the Data Security Law and Personal Information Protection Law were both enacted in late 2021 and are the most

20 Michael Pisa et al., "Governing Data for Development: Trends, Challenges, and Opportunities," *Center for Global Development,* November 2020.

21 Christian Peukert et al., "Regulatory Spillovers and Data Governance: Evidence from the GDPR," *Marketing Science* 0, no. 0 (2022), https://doi.org/10.1287/mksc.2021.1339.

22 Miriam Garcia-Ferrer and Johannes Bahrke. "EU-US Trade and Technology Council: Commission Launches Consultation Platform for Stakeholder's Involvement to Shape Transatlantic Cooperation." Press Corner. European Commission, 2021, https://ec.europa.eu/commission/presscorner/detail/en/IP_21_5308.

23 1st ASEAN Digital Senior Officials' Meeting, *ASEAN Data Management Framework*, Kuala Lumpur: ASEAN, 2021, https://asean.org/wp-content/uploads/2-ASEAN-Data-Management-Framework_Final.pdf.

24 "Russia: Internet companies must challenge 'landing law' censorship," *Article 19,* 2022, https://www.article19.org/resources/russia-internet-companies-must-challenge-censorship-under-new-law/.

restrictive so far requiring government approval or self-assessment for international transfer, but no specific punishments for violation have been established.[25]

Landing/localization laws can be domestically popular, and viable for countries who do not possess Big Tech headquarters in their state. These laws allow for countries to exercise control over companies who are often too distant or too big to be governed in a meaningful way. However, this does not function as reliably for countries with small consumer bases that Big Tech companies may decide to pull away from completely. The localization of data has also been shown to dampen economic growth and threaten human rights,[26] and both landing laws and data localization are unpopular with companies.[27] Landing laws allow governments to increase their influence over Big Tech companies but is often used to abuse that power instead.[28]

SOLUTION FIVE:

Anti-Trust Legislation

One of the most common strategies to control big companies is to split them up. Big Tech recently underwent much anti-trust scrutiny and subsequent regulation in many Western countries like the U.S.[29] The U.S. instituted sweeping anti-trust acts in the form of the Sherman Act in 1890 and the Clayton Antitrust Act in 1914. These defined anti-competitive actions and targeted entities that conspired to create monopolies on markets and harm for consumers. This legislation served as a

basis for the U.S. government to bring lawsuits against major corporations like the Standard Oil Company[30] and American Tobacco Company.[31]

Similar legislation can be applied to Big Tech as a modern iteration of the old major corporations. Anti-trust laws would address the looming size of Big Tech and allow governments to more easily manage them as smaller entities. Anti-trust legislation in the U.S. specifically would lead to a spillover of Big Tech break-up globally and allow smaller countries the same benefit of easier management. However, anti-trust regulation is slow-moving and monopolization cases take a significant portion of time.[32] They are also monolithic and often do not address the unique consumer privacy issues associated with the different companies of Big Tech, as the legislation would prohibit anti-competitive practices but would not inherently support consumer protections and data privacy.[33] Anti-trust legislation necessitates a focus on consumer protection as well as competitive markets to address a broader scope of concerns regarding Big Tech.

SOLUTION SIX:

TechPlomacy

Regulation is not the only way to deal with the far reach of Big Tech. Denmark opened an embassy in Silicon Valley, Beijing, and Copenhagen devoted to coordination and communication with Big Tech and other businesses located in geographic tech hubs. A dedicated tech ambassador interacts with Big Tech as if the companies are their own nation-states due to their global reach and large impact on daily life.[34] The tech ambassador focuses on Danish interests regarding Big Tech, connecting

25 Samuel Yang, "China: Data Localization," *Global Data Review*, 2021.

26 Erol Yayboke, Carolina G. Ramos and Lindsey R. Sheppard, "The Real National Security Concerns over Data Localization," *CSIS Briefs*, July 2021.

27 H Jacqueline Brehmer, "Data Localization the Unintended Consequences of Privacy Litigation," *American University Law Review* 67, no. 3 (2018).

28 Ibid.

29 Olivia T. Creser, "In Antitrust We Trust? Big Tech Is Not the Problem - It's Weak Data Privacy Protections," *Federal Communications Law Journal* 73, no. 2 (Feb. 2021).

30 Milton A. Kallis, "Local Conduct and the Sherman Act," *Duke Law Journal* 236, no. 2 (Spring, 1959).

31 Wallace C. Murchison, "Significance of the American Tobacco Company Case," *North Carolina Law Review* 26, no. 2 (1948).

32 Olivia T. Creser, "In Antitrust We Trust? Big Tech Is Not the Problem - It's Weak Data Privacy Protections."

33 Ibid.

34 Office of Denmark's Tech Ambassador, "The TechPlomacy Approach," *Ministry of Foreign Affairs of Denmark,* 2022, https://techamb.um.dk/the-techplomacy-approach.

Danish businesses to opportunities abroad, and raising the Danish profile in the tech world.[35] The Danish tech ambassador is both interfacing with tech industries, and keeping their finger on the pulse of new tech developments and procedures so the Danish government can plan for and respond to them.

TechPlomacy, as this has been termed, makes use of the relative geographic clustering of Big Tech, and embeds a Danish government presence near Big Tech. Drawbacks arise, however, regarding the willingness of Big Tech to cooperate. Companies can avoid meetings with the tech ambassador or judge them of little importance, and less developed countries might not possess the resources to facilitate the creation of an embassy and its staffing. Even so, through typical diplomatic practices, TechPlomats from small countries with less power are able to raise concerns with Big Tech companies in person and in turn receive feedback from the companies themselves. Less abrasive and overt than regulations, TechPlomacy allows for a cooperative, multi-stakeholder approach to governance of Big Tech.

SOLUTION SEVEN:

A Multi-Stakeholder Perspective

After the Christchurch Mosque shootings in New Zealand in 2019, states and Big Tech companies alike looked for ways to address the horror of what took place and prevent it from happening again.[36] What resulted was the Christchurch Call, an agreement developed and signed by states, private businesses, and civil society. One of the first of its kind, this multi-stakeholder, non-binding agreement showcased the ability of states and Big Tech to reach a consensus over unacceptable content hosted on their platforms. Stakeholders established protocols responding to incidents like that of

Christchurch and prioritized communication and collaboration between government and Big Tech.[37] Further examples of non-binding agreements made between governments and companies exist in the form of the UN Global Compact, a voluntary commitment made by companies to uphold 10 principles on values-based business. They are required to produce annual progress reports, evaluated based on a scale created by an NGO.[38]

Multi-stakeholder agreements take an important step towards recognizing and harmonizing the needs of both governments and Big Tech companies. This approach again elevates Big Tech companies to similar levels as nation-states, and is non-binding which could damage its efficacy, especially in the short-term. However, input from multiple perspectives within these agreements can provide blueprints for more comprehensive agreements in the future, and private entities involved should have equal opportunity to provide feedback. As with various other strategies, it relies on informal mechanisms of enforcement rather than formal.

SOLUTION EIGHT:

Domestic Government Branches for Big Tech

Governments that do not possess the excess resources or overt connection to technology to go the route of Denmark can find recourse in establishing domestic branches of government with a focus on interfacing with Big Tech. The government of France has created the position of Ambassador for Digital Affairs within the Ministry of Europe and Foreign Affairs. Supported by a section of agents, the team works to promote and supervise the development of technology, contribute to internet governance, secure the digital space, promote French values across the tech world and foster support for

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35 Brad Smith and Carol Ann Browne, *Tools and Weapons: The Promise and the Peril of the Digital Age* (New York: Penguin Books, 2019): 35.

36 Christchurch Call, "Christchurch Call to Eliminate Terrorist and Violent Extremist Content Online," *New Zealand Ministry of Foreign Affairs and Trade*, 2022, https://www.christchurchcall.com/.

37 Ibid.

38 UN Global Compact, "What is GC," *United Nations,* 2022, https://www.unglobalcompact.org/what-is-gc.

French tech actors.[39] They have done so through spearheading international projects such as the Christchurch Call and The Global Partnership on Artificial Intelligence.[40] Both of these projects are multi-stakeholder, collaborative efforts between governments and industry experts to create more effective policies regarding tech governance, and are facilitated by the ambassador team's work.

Even though this strategy is located within a state's borders, it aims to achieve similar goals to that of an internationally located tech embassy. This has the potential to become just another regulatory body, therefore necessitating a focus on the communication and cooperation aspect of the branch. While they are limited by their position as removed from the tech hubs themselves, domestic government branches do not require international physical logistical and resource considerations, allowing small countries and those with lower tech priorities to still plan for Big Tech governance through diplomatic means.

RECOMMENDED SOLUTION:

One strategy will not result in all-encompassing governance of Big Tech. As such, this paper recommends 1) the combination of domestically based TechPlomacy with 2) the development of regional regulatory frameworks alongside 3) international multi-stakeholder cooperation. Solution Eight balances the resource-demanding effort of TechPlomacy by centering it domestically and streamlines regulation in order to simplify Big Tech regulatory preparations globally. The French Ambassador for Digital Affairs further resides within the already established foreign relations ministry,[41] which provides a cost-effective method accessible to economies of different levels that still enables meaningful work. Regional regulatory frameworks from Solution

Two take note of prior national regulation experience in states and apply that to a broad section of the globe. Approaches must allow for differing levels of digitalization between regions,[42] and regional frameworks such as the GDPR assist in this. International frameworks do not yet exist for the governance of Big Tech, and in the current world where tech governance is less prioritized in regions such as Africa and South America,[43] an international framework would skew towards and entrench Western viewpoints.

This policy combination should further prioritize the cooperative and diplomatic aims of a domestic ministry or department branch. These outfits should stay within foreign relations and diplomatic departments if they are stationed under another branch. Branches of government may expect regulatory capacity, but that should not be the first priority of a TechPlomacy-oriented office. Regional regulatory frameworks should focus on including a combination of state-level binding agreements, but simultaneously encourage multi-stakeholder, non-binding commitments from Solution Seven that can be developed and adhered to by actors within Big Tech, interested civil society groups, and states themselves.[44] Support amassed from diverse perspectives with the input of the companies which it ultimately affects will provide the largest benefit to citizens.

Weak regulatory pressure and the use of voluntary commitments can contribute to a weak ultimate implementation of a multi-stakeholder commitment and may encourage

39 French Government, "2019 Annual Report of the Ambassador for digital affairs," French Ministry of Europe and Foreign Affairs, 2019, https://www.diplomatie.gouv.fr/en/french-foreign-policy/digital-diplomacy/news/article/2019-annual-report-of-the-ambassador-for-digital-affairs.

40 Ibid.

41 French Government, "Stratégie internationale de la France pour le numérique," *Ministry of Europe and Foreign Affairs,* 2017, https://www.diplomatie.gouv.fr/IMG/pdf/strategie_numerique_a4_02_interactif_cle445a6a.pdf.

42 UN Secretary General Department of Global Communications, "Report of the Secretary General: Roadmap for Digital Cooperation," United Nations, 2020, https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf.

43 Idris Ademuyiwa and Adedeji Adeniran, "Assessing Data Protection and Privacy in Africa," *Centre for International Governance Innovation* 244, (July 2020).

44 French Government, "Stratégie internationale de la France pour le numérique."

Big Tech companies to ignore and avoid TechPlomacy initiatives. This problem could be exacerbated by a lack of international presence in global tech hubs. Additionally, if regional regulatory frameworks are not strong, or do not impose sanctions unappealing enough to Big Tech, companies can afford to risk violations.[45] These effects can be effectively mitigated, however, by constructive TechPlomacy initiatives contributing to a well-rounded governance approach.

Strategies should consider the resources needed to implement multiple policies, and plan to implement multi-stakeholder commitments first if all cannot be achieved at a similar time. Domestic TechPlomacy departments, regional cooperation on regulatory frameworks, and multi-stakeholder commitments should all additionally strive for long-term sustainability through annual reports on stakeholder progress, allotted government funding, and regional unity in order to secure a future of responsible governance for Big Tech. 🌍

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45 Richie Koch, "What is the LGPD? Brazil's Version of the GDPR," GDPR.eu, *European Union*, 2022, https://gdpr.eu/gdpr-vs-lgpd/.

Augmenting the Telecommunications Sector in Djibouti

– Luisa Meyer
Martin Scholar

EXECUTIVE SUMMARY:

Djibouti has jokingly been referred to as a city-state country due to its small size and disproportionate percentage of citizens who live in the capital city. One of the most arid countries in the world, Djibouti's primary geographic asset is its coastline on the horn of Africa and deep-water ports at the mouth of the Red Sea. Inefficiencies in Djibouti's economy have kept unemployment high, and state control of telecommunications (telecom) has meant less innovation and penetration of telecom technology. Djibouti's location and standing arrangements with other countries coincide with the telecom infrastructure needs of the information age. The country stands to benefit by becoming more involved in this development process.

The following proposals explore ways to augment Djibouti's telecom sector, as alternatives to the status quo. This policy paper concludes with a recommendation that Djibouti adopt an integrated approach to open its telecom market to rental of infrastructure by foreign providers, and also develop education programs that build Djibouti's human capital and technical skill in the area of marine fiberoptic cable maintenance. There are four purposes for these suggestions: 1) To reduce high unemployment rates by developing trained labor in the increasingly relevant area of telecommunications, 2) To capitalize on, and further develop, strategic partnerships with developed nations that already are hosted in Djibouti, 3) To improve access to telecom services within the country, and 4) To combat claims of alleged corruption in the management of Djibouti's telecom sector.

OVERVIEW/BACKGROUND:

Telecommunications (telecom) when used in this document, will refer to the four services that Djibouti's sole provider, Djibouti Telecommunication (DT), currently supplies. These services are fixed telephony, mobile telephony, internet access, and data for both regional and international connectivity.[1] Additionally, 'telecom' will refer to marine fiberoptic telecom infrastructure. Marine fiberoptic cables use a technology that fires lasers across vast lengths of glass fibers in order to transmit data at high speed across long distances. The infrastructure that supports this is extensive and requires international cooperation and regular maintenance.[2] Most of these cables have stakeholders in several countries.

Djibouti is a small country on the horn of Africa, spanning 23,200 square miles with a population estimated to reach 938,413 by July, 2021.[3] DT is entirely state owned and operated. This monopoly includes infrastructure – in short, any data that comes into Djibouti must be run through Djiboutian owned infrastructure. The two cable landing stations on Djibouti's coast are connected by the Djibouti Data Center (DDC), a tier 3, carrier neutral data center that provides an access point to East Africa for international telecom carriers, mobile network operators, and content delivery network providers. Backhaul and neutral internet exchange are sourced from DDC.[4] Though Kenya has recently established its own data center, and DT cooperates with Kenya, Djibouti is still the primary access point to East Africa for telecommunications. Lack of competition in the Djiboutian internal telecom industry has contributed to telecom penetration in Djibouti

remaining low compared to other African countries with similar levels of development.[5] Within the population, 4% have access to landlines, 45% use cellphone technology (most of whom are concentrated in and around the capital city), 55% have access to internet, and only 2.6% have access to broadband internet.[6] Rural to urban differences in access are highly pronounced, and nomadic peoples, who account for 20% of the population, have particularly limited access.[7] [8] Djibouti City (capital of Djibouti) is the only city in the country that employs fiberoptic technology. DT represents a significant portion of Djibouti's economy – revenues accounted for around 6% of GDP in 2016.[9] Djibouti has been reluctant to give up its telecom monopoly despite being one of the only countries globally to still operate this way. In the past decade, DT has been accused of accepting bribes in return for extending international contracts – bribes which government officials allegedly organized and benefitted from.[10] These allegations of corruption hurt efforts to attract and bring international business and investment to Djibouti.

5   See Appendix 2

6   "Bubbles," gapminder.org., accessed November, 2020, https://www.gapminder.org/tools/#$state$time$value=2018;&marker$select@$country=dji&trailStartTime=2000&labelOffset@:0.024&:-0.252;;;&axis_y$which=broadband_subscribers_per_100_people&domainMin:null&domainMax:null&zoomedMin:null&zoomedMax:null&spaceRef:null;;;&chart-type=bubbles

7   See Appendix 3 for data on rural to urban differences.

8   "Groundbreaking Household Survey Reaps Broad Array of Data in Djibouti," World Bank Group: Results Briefs, October 1, 2019, https://www.worldbank.org/en/results/2019/09/30/groundbreaking-household-survey-reaps-broad-array-of-data-in-djibouti#:~:text=An%20estimated%2020%20percent%20of%20Djiboutians%20are%20nomadic

9   Xavier Decoster, Gabriel Lara-Ibarra, Vibhuti Mendiratta, and Marco Santacroce, "Welfare Effects of Introducing Competition in the Telecom Sector in Djibouti," *World Bank Group; Poverty and Equity Global Practice Working Paper 203,* May, 2019, http://documents1.worldbank.org/curated/en/719401557386438329/pdf/Welfare-Effects-of-Introducing-Competition-in-the-Telecom-Sector-in-Djibouti.pdf

10 "Djibouti Telecom corruption scandal revealed: who paid what to whom and how big the bribe was," Balancing Act; News update Telecoms and ICT in Africa - Issue no 1006 – 13, December, 2019. https://www.balancingact-africa.com/news/telecoms-en/46516/djibouti-telecom-corruption-scandal-revealed-who-paid-what-to-whom-and-how-big-the-bribe-was

1   Mohamed Assoweh Bouh, "Djibouti to utilise geostrategic location to develop ICT connectivity hub," *Oxford Business Group: The Report; Djibouti 2016,* 2016, https://oxfordbusinessgroup.com/overview/emerging-gateway-country-seeks-leverage-its-geostrategic-location-develop-connectivity-hub

2   See Appendix 1

3   "Djibouti," CIA World Factbook, last modified 5 May, 2021, https://www.cia.gov/the-world-factbook/countries/djibouti/

4   "Djibouti Data Center (DDC) Overview," Baxtel.com, accessed February, 2021, https://baxtel.com/data-center/djibouti-data-center-ddc

'Foreign direct investment' accounts for 5.6% of Djibouti's GDP, and 'net official development assistance received' accounts for 5.7% of GNI.[11] Djibouti has an economic sectoral breakdown of a "developed" economy, with almost 80% of employment found in the services sector, while industry accounts for under 20% and agriculture a mere 2%. Yet this is a result of a lack of arable land for farming and an inefficient fishing industry, not economic surplus that allows citizens to specialize in trades. Djibouti has a young population, with around 50% of citizens under the age of 25, and likewise, approximately 50% of Djibouti's population (~500,000 people) live in Djibouti City. Together, these statistics are indicative of a young, urbanizing population in need of jobs.[12] Poverty is high in Djibouti – as of 2019 the unemployment rate was 43%.[13] A relatively long coastline and deep-water access to the mouth of the Red Sea are among the few natural resources Djibouti has. Some of the primary sources of income for the government are harbor fees and transit taxes from the trade that moves through Djiboutian ports.

Djibouti has a geo-strategic opportunity to develop its telecom industry. International investment in marine fiberoptic cables, as well as economic and military ports, is significant in Djibouti. Djibouti hosts ten major international deep sea fiberoptic cables. In the past two decades especially, countries holding significant stock in these cables have come to believe that maintenance of fiberoptic technology is an issue of national security.[14] When cables are repaired, there is increased opportunity for

tapping and espionage. Relevant to this point, it should be noted that three P5 countries (China, France, and the United States) have military bases in Djibouti, as does Japan, which has exhibited technological prowess since the mid-20th century. All four countries have a stake in at least one of the marine cables docked on the Djiboutian coast. Djibouti exhibits strategic conditions which could enable the country to become a significant telecom hub.

Political timing will play a role in any kind of discussion on the state of Djibouti's telecom monopoly. Incumbent President Ismail Omar Guelleh won his fifth presidential term this year. However, in 2010 an age cap of 75 years was applied to the presidency despite the removal of term limits. This will be Guelleh's final term, and a discussion of the de-centralization of services (like telecom) may be a key issue for discussion in what already portends to be a tumultuous election.[15] Steps in this direction have already started, as exemplified by Djibouti's interaction with the USAID 'Power Africa' initiative, which worked to empower private sector general power production through new, de-centralizing policies.[16]

DISCUSSION OF OPTIONS:

There are four general strategies for Djibouti to choose from regarding the development of their telecommunications sector. These are as follows:

1) Maintain Status Quo:

Djibouti can choose to continue as they have been, and DT would maintain full operational control of the communications sector in Djibouti. As mentioned above, a significant amount of DT's capacity is exported to Ethiopia. Ethiopia relies on Djiboutian ports to export their goods, and Ethiopia is Djibouti's largest neighbor and trading partner. Close collaboration between the Djiboutian and Ethiopian economies means that port trade in Djibouti is expected to grow

11 "Djibouti: Human Development Indicators," UNDP, accessed April, 2021, http://hdr.undp.org/en/countries/profiles/DJI

12 "The Permanent Mission of the Republic of Djibouti to the United Nations: Country Facts," United Nations, accessed December, 2020, https://www.un.int/djibouti/djibouti/country-facts

13 Sophy Owuor, What are the biggest industries in Djibouti? World Atlas; Economics, May 10, 2019, https://www.worldatlas.com/articles/what-are-the-biggest-industries-in-djibouti.html

14 Nadia Schadlow and Brayden Helwig, "Protecting undersea cables must be made a national security priority," Defense News, July 1, 2020. https://www.defensenews.com/opinion/commentary/2020/07/01/protecting-undersea-cables-must-be-made-a-national-security-priority/

15 "Djibouti's President Guelleh wins fifth term with 97% of votes," Reuters, April 11, 2021.

16 "Djibouti Power Africa Fact Sheet," USAID, website last updated April, 2020. https://www.usaid.gov/powerafrica/djibouti

rapidly – a parallel to Ethiopia's expanding economy.[17] As Ethiopia's economy expands, demand for telecommunications technology – accessed through Djibouti – could grow. Thus, the state owned-and-operated DT can expect a constant, if not increased, demand for their telecom services. Djibouti banks on its position between the Middle East and East Africa to provide continued market demand for their connectivity-oriented services. 5G fiberoptic infrastructure is a recent development in Djibouti City. Much of the rest of the country uses Asymmetric Digital Subscriber Line (ADSL) technology for internet service – a copper wire technology that pre-dates the dial-up technology of the 1990s.[18] In 2011, DT partnered with Swedish company Ericsson to try to boost Djibouti's telecom capabilities from 2G to advanced 3G.[19] If such a limited partnership was meant to make quality telecom accessible to more Djiboutians, the effort was not especially successful. In 2016, a 70% reduction in price for an entry level package was accompanied by a reduction in the capacity offered to subscribers (from 50 GB to 30 GB per month) and the speed (from 3 to 1 Mbit/s).[20] Of the roughly 525,000 employed citizens of Djibouti, less than 2,000 work for DT, while the 43% unemployment rate remains. With no intervention, Djibouti can expect to see very slow telecom development, a stable and high unemployment rate, and a possible shift in telecom and connectivity sourcing moving south to Kenya for international market purposes.

2) Education of Marine Fiberoptic Service Sector funded by Cable Tax:

With four foreign controlled military ports based on its coastline, Djibouti will never be considered a "neutral" non-participant in international alliances or multilateral military strategies the way that Switzerland is in Europe. Being surrounded by conflict ridden neighbor states (Somalia, Eritrea, and Ethiopia) creates market challenges for Djibouti, which is considered one of the more stabilizing presences in the horn of Africa. In spite of challenges, there is potential for Djibouti to develop an internationally recognized, non-aligned niche service sector in marine fiberoptic maintenance. Fiberoptic repairs are generally taken care of by the companies who own the cables. However, globally the number of accusations of tampering and hacking in these repairs is on the rise. Djibouti could capitalize on these tensions by becoming qualified to resolve crucial global telecom infrastructure maintenance problems. Doing so in a non-partisan way would earn trust from every geopolitical corner, similar to the way the Red Cross/Red Crescent is operated by the Swiss and can deliver aid in places that few (if any) other countries can. The development of this service sector in Djibouti would require technical education of workers, in order that they could learn how to use up-to-date technology and techniques. Retraining of labor is easiest in younger populations, and as it happens, in Djibouti the younger population is already significantly unemployed, especially in urban areas where telecom infrastructure is already more prevalent. Harbor fees and transit taxes make up a large portion of Djibouti's revenue; Djibouti could consider creating a new tax (or redirecting the current tax) on marine fiberoptic cables hosted on the coastline. Revenue from this tax could be allocated to technical education programs that teach students how to work on, and repair, underwater fiberoptic lines as well as mainland fiberoptic infrastructure. There are currently no specialized secondary schools that provide this sort of training in Djibouti.

17 "The World Bank in Djibouti; Overview; Context," World Bank Group, Last updated December, 2020, https://www.worldbank.org/en/country/djibouti/overview

18 Jon Martindale, "What is ADSL (Asymmetric Digital Subscriber Line)?" Lifewire; home networking, September 11, 2020, https://www.lifewire.com/what-is-adsl-4589722

19 "Djibouti Telecom to work with Ericsson on 3G network rollout," *Telegeography: GlobalComms Database.* September 22, 2011, https://www.commsupdate.com/articles/2011/09/22/djibouti-telecom-to-work-with-ericsson-on-3g-network-rollout/

20 Decoster, Lara-Ibarra, Mendiratta, and Santacroce, "Welfare Effects," 8.

3) Open Telecom Market and Infrastructure Access to Foreign Provider – Mandatory 40% Djibouti Citizen Employment Stipulation:

Demand for new telecom infrastructure is finite – the number of consumers of capacity are limited, and upgrades on existing infrastructure can often enable it to host new technologies which meet growing needs. Thus, a common practice in many places is for the owner of telecom infrastructure to lease to another provider company. This company can then use and upgrade the infrastructure for their own benefit and services. A policy option for Djibouti would be to allow foreign providers access to the DT infrastructure and market in Djibouti, with the stipulation that a minimum 40% of employees hired by any new company be Djibouti citizens. Especially in the aftermath of COVID-19, Djibouti would want to extend the invitation to a highly solvent telecom company that would not be reticent about new investments right now. The French company Orange, one of the most prominent international telecom companies, grosses €42.24 billion (approx. $51.76 billion USD) per year and is an example of a potential partner.[21] DT would no longer have sole access to the provider market in Djibouti, but could maintain their exports to Ethiopia.

One market option lies in SEA-ME-WE-3, the largest deep sea fiberoptic cable network in the world, which has one of its bases in Djibouti. The line is jointly owned by French and Chinese telecom companies.[22] Specifically, Orange, the company mentioned above, could be invited to join the service options within Djibouti. Such a relationship would be facilitated by shared language (French), shared interests (a French military port, dual connection to a major cable network, and maintenance of said cables), and shared economic opportunity.

Alternate options include connection into the DARE (Djibouti Africa Regional Express) or PEACE (Chinese owned) systems. DT has been a key investor in both cable systems, which link Djibouti to international networks.[23] In the case of DARE, Djibouti is already one of the higher capacity providers in the network – the other landing points are Somalia, Tanzania, Yemen and Kenya.[24] DARE is a lower-capacity network, but could help foster regional cooperation if there were a higher degree of interdependence. The PEACE cable system is a subsidiary of China-based HENGTONG Group and supplied by Huawei Marine.[25] This network is widespread and well equipped in the regions of East Africa, the Middle East, and Southern Europe. Moreover, China only recently established its first over-sea military base, which is located in Djibouti. Thus, Djibouti has an opportunity to foster this budding relationship with China, who is the heir-apparent to the next wave in telecom preeminence. This could be a strategic development for Djibouti in regard to capacity building, as the Chinese Belt-and-Road initiative has taken an interest in getting a handhold in African development.

Djibouti levies a standard branch profits tax, where branches of non-resident companies are subject to a standard corporate income tax at a rate of 25%.[26] This tax would apply to any telecom company that was permitted to operate in Djibouti. Djiboutian customers, whether buying from DT or another company, would be subject to the standard 10% value added tax for the purchase of goods or services in Djibouti.

4) Integration of Education and Infrastructure Measures:

The final policy option is to integrate telecom

21 S. O'Dea, "Orange's revenue 2008-2019," Statista, accessed December, 2020, https://www.statista.com/statistics/272164/france-telecoms-revenue-since-2008/#:~:text=Orange's%20revenue%202008%2D2019&text=This%20statistic%20shows%20the%20global,42.24%20billion%20euros%20in%202019

22 "SEA-ME-WE 3," Submarine Cable Networks. May 8, 2013. https://www.submarinenetworks.com/systems/asia-europe-africa/smw3

23 Henry Lancaster, "Djibouti - Telecoms, Mobile and Broadband - Statistics and Analyses," BuddeComm, August 19, 2020, https://www.budde.com.au/Research/Djibouti-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses

24 "Djibouti Africa Regional Express (DARE)," FiberAtlantic.com, accessed November, 2020, http://www.fiberatlantic.com/system/Z60Pv#:~:text=The%20system%20has%20a%20length,Somtel%20International%2C%20Telesom%2C%20TeleYemen

25 "SEA-ME-WE 3," Submarine Cable Networks.

26 "PKF Africa Tax Guide 2019/20; Djibouti," PKF.co, March 4, 2020, https://www.pkf.co.za/publications/africa-tax-guides/2019-20-africa-tax-guides/

service education supported by a marine fiberoptic cable tax, with the rental of telecom infrastructure to an outside international telecom provider as a means of introducing competition to Djibouti's telecom market. Djibouti has already proven by its Djibouti 2035 Initiative that it is dissatisfied with the status quo and is ready for change.[27] Without a creative growth mindset now, Djibouti could miss out on a place at the table in the future of global technology. A study conducted in 2019 found that internet access has significantly contributed to recent growth in Kenya and in Nigeria. After correcting for relevance of internet as a variable, and determining the speed of adjustment in financial development, the study posits that "(i) relaxing the stringent requirements for licensing internet operators in order to make more services available for financial transactions, (ii) integrating internet technology into the national infrastructure framework in order to sustain its application, (iii) fostering local skills and expertise that will be maintaining internet infrastructure and (iv) providing a legal framework that protects personal information and ensures responsible usage of internet" would aid overall development in most sub-Saharan countries.[28] These findings support the principle that increased internet and telecom infrastructure would financially benefit Djibouti, especially if Djiboutian citizen education and workforce participation are involved as well.

POLICY RECOMMENDATION:

The integration of education and infrastructure measures is the policy option recommended for implementation. Slow and stunted growth is possible within the current structure, and eventually Djibouti City and other urban areas could host more high-tech capabilities. However, the development gap between rural and urban areas may widen significantly if not directly addressed. DT surveys quantifying demand in different areas of the country fail to account for changes in potential demand given possible sector changes, and lack of attention could lead to eventual rural infrastructure deterioration and/or obsoletion.

Potential benefits of implementing a service education tax on marine cables include creating a niche service industry in Djibouti that, given the international political climate, could put Djiboutian services in high demand. Given Djibouti's high unemployment rate, an increase in human capital/trade training could be a significant benefit to the economy and quality of life. With growth in telecom know-how and education, demand for telecom infrastructure and services in rural and urban areas becomes more likely. This could aid in lowering the development gap between rural and urban regions, and the systemic and unequal regional development issues that are seen in China. The greatest benefit for Djibouti to reap from policy option two is that by taxing all cable owning countries/companies non-discriminately, more credence is lent to the perception of Djibouti's "neutrality" if a well-trained and respected telecom maintenance service sector manages to develop. It makes their services more desirable. There are, however, a few problems with this strategy. First, there is not an abundance of capacity in the country to be used for furthering educational opportunities. Developing a technology education program when there is limited access to technology would be a major challenge. Additionally, if any of the countries/companies were to refuse to pay a tax, Djibouti would not have the military strength to enforce such measures. Lastly, Djibouti does not want to anger the countries/companies that already invest in using their port area as port space and services are essentially the biggest export. Djibouti cannot afford to lose new investment or current investment in their port area by imposing a tax that did not exist before.

The most obvious gain from a policy of leasing telecom infrastructure to an outside company is that this would bring in rental and tax revenue for the state. Simultaneously, introducing competition within the Djiboutian market could improve existing infrastructure, and

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27 Mohamed Assoweh Bouh, "Djibouti to utilise geostrategic location."

28 Samson Edo, Henry Okodua, and John Odebiyi, "Internet Adoption and Financial Development in Sub-Saharan Africa: Evidence from Nigeria and Kenya," *African Development Review* 31, No. 1, April 16, 2019, Pages 144-160. https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-8268.12370

create incentives to reach more communities. Competition is, in general economic terms, a good thing because lower prices mean that consumers have a less binding budget constraint. Though prices may be marginally lower, gains from an expanded market generally offsets price loss for the competing firms. Current copper-wire-based connections in rural Djibouti suffer from overburden and long distances. Leased infrastructure can be improved – and a renting company would likely benefit from introducing loop extenders and additional shorter support lines. [29] Finally, by requiring 40% of hires from the competing company to be citizens of Djibouti, there could be an increase in telecom-service trained individuals in Djibouti. DT currently only employs around 1,300 people, despite contributing approximately 6% of the national GDP.[30] Limitations associated with this policy necessitate cautious steps forward. First, Djibouti could only open to one company, at least to start, in order to acclimate to the new competition. Fully opening the telecom market after only ever having one state-owned company would be far too much to try to manage, and might even kick DT out of the competition. Yet this policy of "only one" could be viewed as favoritism or cause for bias by other states. This would sabotage any attempts at a position of neutrality were Djibouti to try to provide international marine cable maintenance services. This potential contention largely disqualifies consideration of allowing a US or Chinese firm to open operations (due to their aggressive engagements with each other recently). The DARE network may not have the resources to truly invest in and build up Djibouti's infrastructure at this time. That leaves Orange as the only other realistic company choice if Djibouti hopes to remain even partially neutral. A second issue is that Djibouti is a small market that has an unsure potential of growth, which may not be enticing enough for a telecom company to invest in initial starting costs.

The recommendation is to synthesize policy options one and two; education/vocational training and the rental of telecom infrastructure

to an outside international telecom provider. A key positive of this option is that if effective, it could build telecom capacity physically, and within the population of Djibouti at the same time. Tailoring a geo-strategic and region specific, internationally relevant niche service could push Djibouti to a new level in global significance. Employment – especially in telecom industries, has the potential to increase demand for telecom services. More telecom infrastructure creates more access and understanding. The downside is that problems from both policies, such as "playing favorites" and needing to make sure companies will not un-invest in Djibouti, persist. Yet this potential bias may be ignored when confronted by the equalizing tax policy added by the second policy option. By cultivating service sector growth and infrastructure projects at the same time, Djibouti could mitigate some concerns over the sustainability of such projects – they sustain and develop each other.

IMPLEMENTATION RECOMMENDATION:

In 2004, Cabo Verde unsuccessfully tried to use a bidding process to sell a second mobile telecom provider license, in addition to the incumbent provider. After failing to attract bids, the country resorted to direct negotiations with Alexander Group Telecommunications, a foreign investment group. The sale of the second license contributed about $2 million to Cabo Verde's economy directly, and between 2007-2009, mobile penetration doubled from 21% to 40%.[31] The case study of Cabo Verde shows that a small country is unlikely to incentivize major providers to fight for access to their market – rather, a small country like Djibouti should be proactive in opening dialogue with companies. One of the first steps before the recommended policy can be implemented would be communication with Orange, to determine what their terms would be on entering Djibouti's telecom market. Data that has been collected up to this point suggests that by itself, if competition were introduced to Djibouti's telecom provider market, there would

29 Jon Martindale, "What is ADSL?"

30 Mohamed Assoweh Bouh, "Djibouti to utilise geostrategic location."

31 Decoster, Lara-Ibarra, Mendiratta, and Santacroce, "Welfare Effects," 10.

be statistically significant gains to household welfare. These gains would be skewed in favor of wealthy households that already have access to, or use, telecommunications services. Smaller gains were deemed likely for less-wealthy households.[32] Thus, in the short term, introducing Orange as a provider in Djibouti would likely create an increase in overall welfare, but also a widening of the welfare gap. However, when tempered with service-oriented education initiatives and mandatory (40%) employment of Djiboutian citizens, in the medium to long term, we might see this gap lessen. Permitting an international connection to rent telecom infrastructure in Djibouti, and introduce their own telecom services, is likely to facilitate telecom capacity growth and availability moving forward. Additionally, Djibouti should consider mirroring the revenue that they currently get from taxing trade ports, and tax any rental of telecom infrastructure or docking of sea cables. Revenue from this tax would be directed to one of Djibouti's biggest focus areas – education – with the intent of developing a trained telecom maintenance sector within Djibouti's service-oriented working economy.

Because of the high attrition rate of students who finish and continue past primary and (especially) secondary education, it would be important to begin providing some technical training programs at the secondary level. Then, an option of continued and specified education would be offered after the completion of secondary education.[33] Capacity building of human and physical capital would grow both local employment opportunities and global industry openings for the country. In order to build capacity however, telecom technology and penetration must improve within Djibouti, which could be facilitated by foreign investment and technology in the telecom sector. DT currently focuses on exporting its bandwidth, especially to its neighbor state Ethiopia, which leaves a shortage for domestic consumers.[34] By introducing outside sources of telecom connectivity, Djibouti could continue to export DT capabilities while adding service for more citizens at home. Conversely, the competition could incentivize DT to develop more comprehensive capabilities for its domestic market. True penetration should be accompanied by a focus on ensuring that such a policy change would not significantly widen the rural to urban access gap.

CONCLUSION:

Djibouti is entering a period of extreme change. With an impending democratic turn-over, development setbacks resulting from the COVID-19 pandemic, and the fast-paced and competitive global market in need of connectivity, it is time for Djibouti to step up and realize its geostrategic potential. By cultivating service sector growth and infrastructure projects at the same time, Djibouti could mitigate concerns over the sustainability of such projects – the two are complementary. To develop a service industry relevant to the needs of the 21st century global community, Djibouti needs to implement the most modern technologies. Market integration and openness facilitates access to this. Simultaneous service education of Djiboutians counterbalances the tendency for foreign companies to neglect Djibouti's involvement and in the long-term keeps Djibouti in a growth-oriented position. This policy proposal is based upon the belief that a renewed focus on telecommunications, and a relaxation of monopoly power, would financially and geopolitically benefit Djibouti. To maintain autonomy over such developments, Djibouti must train and further educate its citizens. 🌍
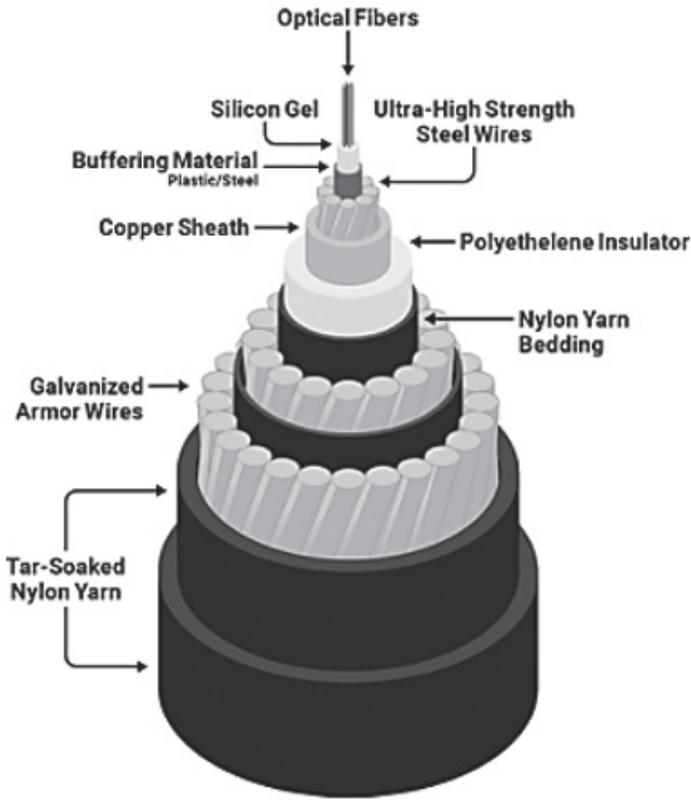
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32 Ibid.

33 Mary Kate Luft, "Six Facts About Education in Djibouti," The Borgen Project, October 18, 2017. https://borgenproject.org/education-in-djibouti/

34 Decoster, Lara-Ibarra, Mendiratta, and Santacroce, "Welfare Effects," 2.

Parts of a submarine cable

35 "Submarine Cable Frequently Asked Questions,"
TeleGeography, accessed January, 2021, https://www2.
telegeography.com/submarine-cable-faqs-frequently-
asked-questions

A2: [36]

Travel distance from telephone service infrastructure

NATIONAL AVERAGE

Djibouti City

Urban (except capital)

Rural

0%   20%   40%   60%   80%   100%

■ 1-10min   ■ 10-30min   ■ 30-60min   ■ 60+min

A3: [37]

Ranking of the ICT Sector in lower-income countries from MENA and Sub-Saharan

International Telecommunications Union (ITU), ICT Development Index ranking, 2016 (and ranking of Djibouti in 2010)

Djibouti (2016)

Djibouti (2010)   Syria   Morocco   MENA

Egypt   Tunisia

Zambia   Lesotho   Côte d'Ivoire   Ghana   Cape Verde   SSA

Mauritania   Sudan   Nigeria   Kenya

Cameroon

United Nations, e-Government ranking, 2016 (and ranking of Djibouti in 2010)

Djibouti (2016)   Yemen   Djibouti (2010)   Syria   Egypt   Morocco   Tunisia   MENA

Mauritania   Cameroon   Nigeria   Swaziland   Zambia   Cape Verde   SSA

Côte d'Ivoire   Sudan   Lesotho   Ghana

WORLD RANKING

190   170   150   130   110   90   70

Source: ITU and UNDESA

36 Decoster, Lara-Ibarra, Mendiratta, and Santacroce, "Welfare Effects," 5.

37 "Economic Transformation in Djibouti: Systematic Country Diagnostic," World Bank Group; Report No: 134321-DJ, Fig. 6, October 2018. http://documents1. worldbank.org/curated/en/437351549918326165/ pdf/djibouti-scd-english-version-final-approved-vlo go-02062019-636852600790519539.pdf

Reducing Teen Suicide Rates in European Union States

– Ryan Palmer
Martin Scholar

EXECUTIVE SUMMARY

As of 2021, the European Union (EU) does not have a comprehensive directive regarding teen suicide prevention.[1] Europe has the highest reported teen suicide rate of any continent.[2] Both teen suicide rates in EU states and preventative measures in place in EU states vary greatly.[3] The EU as an international governing body has an opportunity to pass legislation which could encourage or even standardize best practice methods of teen suicide prevention in all EU states, which has the potential to drastically reduce teen suicide rates on the continent.

The EU could increase its funding for mental health and suicide prevention related research or pass legislation that ensures a minimum % of state healthcare spending goes to mental health, the EU could consider widespread implementation of suicide prevention programs in European schools, or the EU could consider formally adopting the "Mental Health in all policies" approach to legislation as outlined by the European Framework for Action on Mental Health and Wellbeing.[4] Increasing Mental Health funding in the EU is the most politically feasible option, but the impact of this approach is limited in comparison to the other two options. Implementing widespread teen suicide prevention programs in schools is less politically

1   EU Joint Action on Mental Health and Wellbeing, "European Framework for Action on Mental Health and Wellbeing," The European Union, 2018.

2   World Health Organization, "The European Mental Health Action Plan 2013–2020," World Health Organization Regional Office for Europe, 2015.

3   The European Parliament. "Mental Health European Parliament Resolution of 19 February 2009 on Mental Health (2008/2209(INI))," February 19, 2009. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009IP0063.

4   EU Joint Action on Mental Health and Wellbeing, "European Framework for Action on Mental Health and Wellbeing," The European Union, 2018.

feasible than the previous option and has higher associated costs, however the impact of this policy in reducing teen suicide would be greater and it would be easier to directly trace reduced suicide rates in schools to said programs. The last option, making "Mental Health in all policies" a central theme of all legislation passed in EU states, would have a major positive impact on the mental health of EU citizens and substantially reduce the teen suicide rate as well, but this policy is politically infeasible and would take years to see the benefits of.

The current analysis recommends the widespread implementation of suicide prevention programs in European schools as this option best balances political feasibility with high rates of potential teen suicide reduction. This option also has the highest benefit-cost ratio overall as the value of lives saved by such programs outpaces total costs by a significant amount.

REDUCING TEEN SUICIDE RATES IN EUROPEAN UNION STATES

Suicide is a major health crisis worldwide. This crisis does not receive the attention or resources that a problem of this magnitude warrants or deserves. Suicide as a social topic as well as a policy topic is taboo in much of the world. Stigma stymies meaningful conversation about suicide at all levels of society.[5] This often prevents those who are suicidal from seeking help because they feel like an outcast for doing so, or from finding help because the support infrastructure does not exist in their country.[6] High suicide rates in youth populations are especially troubling. Research shows that teen suicide rates are a broader reflection of a

society's youth mental health.[7] Since a person's teenage years are so formative and often greatly impact mental health in adulthood, high rates of teen suicide are also a likely reflection of a mentally unwell adult population.[8]

While Europe tends to be more forward thinking about combating stigma related to suicide and mental health, the continent still has the highest reported rate of suicides per capita when compared to other continents.[9] In Europe, suicide is a leading cause of death for teens aged 15-19.[10] Furthermore, mental health issues and depression have been calculated by the OCED to cost a total 3.5 to 4 % of GDP across Europe.[11] These factors, paired with the great loss of potential life that teen suicide causes, as well as the immense suffering of said teens' loved ones, make a compelling case for states and institutions to combat teen suicide rates in their societies.

Actions taken over the last fifteen years t prevent teen suicide in Europe, unregulated and diffused over individual states, have achieved marginal success. This is evident from the minimal reduction of teen suicide cases over time.[12] There is an opportunity for teen suicide rates to be reduced more substantially by a combined strategy of more concrete, centralized actions by the EU as an institution to promote mental health in youth populations across Europe and encourage states themselves to take more decisive action. The current analysis presents policy options that advance this strategy of EU-led initiatives to reduce teen suicide.

5   World Health Organization, "The European Mental Health Action Plan 2013–2020," World Health Organization Regional Office for Europe, 2015.

6   Ibid.

7   World Health Organization, "Adolescent Mental Health," World Health Organization (World Health Organization), accessed January 5, 2021, https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health.

8   Ibid.

9   World Health Organization, "Suicide," World Health Organization (World Health Organization), accessed January 5, 2021, https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/areas-of-work/suicide.

10   Ibid.

11   OECD, "OECD Mental Health Performance Framework," OECD Better Policies for Better Lives, 2018.

12   Eurostat, "Eurostat Suicide Death Rate by Age Group," accessed January 5, 2021, https://ec.europa.eu/eurostat/databrowser/view/tps00202/default/table?lang=en.

BACKGROUND

Understanding what options the EU has today to prevent teen suicide requires an understanding of what the status quo has been for the last decade and what actions the EU and other stakeholders have already taken. The proceedings of "Together for Mental Health and Well-Being", a high-level EU conference in Brussels in June of 2008, provides a glimpse into actions taken regionally to address teen suicide in the last decade. This conference established the European Pact for Mental Health and Well Being, which acted as an EU call for action to member states in five priority areas related to mental health.[13] Points one, two, and five in the report apply directly to teen suicide.

Point one urges EU member states to implement measures within their states to prevent depression and suicide.[14] The pact specifically urges state policymakers to improve training for mental professionals regarding mental health; take action to reduce risk factors for suicide such as drug abuse, social exclusion, and stress which lead to depression and suicide; and to create support infrastructure for those affected by the suicide or suicide attempts of loved ones.[15] Point two is concerned with mental health in youth populations and within education.[16] The EU urges states to promote the training of professionals involved with youth and education in topics related to mental health; to promote programs that teach healthy parenting skills; and promote programs to decrease abuse, bullying, and violence in schools.[17] Point five is related to combating stigma and social exclusion. The EU urges states to promote anti-stigma campaigns in media and schools; develop mental health services integrated with society to avoid stigmatization and social exclusion; and to ensure that people with mental health problems are involved in the policy making process.[18]

These mental health policy goals, all closely connected to teen suicide prevention, are meaningful policy recommendations, yet still are only recommendations. The European pact for Mental Health and Well-being is very precise in its language to "invite policy makers and stakeholders to take action" on whatever topic is at hand, but never does more than "invite".[19] This is a call to action by the EU, but outside of making recommendations it takes no direct action to reduce suicide in its member states and does not establish new legislation to make actions binding in any way.[20]

Since the 2008 conference, the EU in cooperation with the World Health Organization's European regional office has created and adopted the European Mental Health Action Plan of 2013-2020.[21] This document details more recommendations for EU states to follow, however it is less focused on suicide and youth populations than the previous European pact. This document explains well how EU and WHO European offices seek to ensure that all citizens human rights are respected in relation to mental health, and that everyone regardless of socio-economic class, age, or other status has equal opportunity to have good mental health during their lifetime.[22] The action plan promotes the creation of health systems in Europe which provide good mental care for all. These mental health systems would be integrated with the broader healthcare system as well as its local community. This is done to combat stigma, as mental health care facilities which are separate from the rest of society give people less chances to learn about mental health.[23] Many of the key recommendations made in this document to EU states are similar to those made in the EU pact, however there are notable recommendations related to teen suicide.

13 The European Parliament. "Mental Health European Parliament Resolution of 19 February 2009 on Mental Health (2008/2209(INI))," February 19, 2009. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009IP0063.

14 Ibid.

15 Ibid.

16 Ibid.

17 Ibid.

18 Ibid.

19 Ibid.

20 Ibid.

21 World Health Organization, "The European Mental Health Action Plan 2013–2020," World Health Organization Regional Office for Europe, 2015.

22 Ibid.

23 Ibid.

The WHO office recommends the "development and implementation of suicide prevention strategies that incorporate best evidence, combining a universal approach with activities protecting vulnerable groups."[24] The WHO also recommends that states "offer universal and targeted mental health promotion programmes in schools, including early identification of emotional problems in children and action on bullying."[25] These are programs that more directly address teen suicide and create potential for prevention. While this 2013-2020 WHO European action plan does get more specific in what it recommends states and other stakeholders do, it is similar to the 2008 document in giving advice and advising states to take action rather than putting forth precise policy measures for implementation.

The most recent mental health conference held by the EU was in 2016, titled the European Framework for Action on Mental Health and Wellbeing, EU Joint Action.[26] This Framework recognizes in its "mental health and schools" section that school based mental health promotion and suicide prevention has been repeatedly proven to be effective and that this is especially critical to recognize as the majority of lifetime mental disorders manifest in youth."[27] This framework also explains that many teachers in EU states, while playing a major role in teen suicide prevention, are also often not properly equipped for this responsibility and/or lack the ability to cope.[28] Lack of training in mental health best practices results in teachers who lack the necessary skills to promote mental health and not recognizing students who need to be "referred" to get help.[29] Progress has been made between 2008 and 2016 in regard to schools' abilities to promote mental health, but there are still many challenges to overcome

and thousands of students still go untreated for mental health disorders, which in some cases lead to suicide.[30]

The 2016 framework also has a section addressing the prevention of depression and suicide throughout society generally, rather than just in youth populations. This section reiterates that while many successful interventions have been developed that treat depression and suicide, many people in the EU lack access to these interventions.[31] Like in teachers not recognizing suicidal students in schools, healthcare professionals often under-recognize depression in patients. This rate of under-recognition is estimated to be as high as 50% of cases.[32] Stigma of depression and limited accessibility to preventative programs remain barriers for even those who are properly diagnosed.[33] This framework emphasizes the importance of national strategies in their ability to facilitate the buildup mental health care structures, improve training of mental health awareness in health workers, and fight against stigmas against mental illness, in the hopes that national models may someday serve a broader EU model.[34]

These three documents address similar issues, suggest similar and complementary policies, and share one major shortcoming – none of them recommend the EU take any direct action. All three documents recommend actions that states should take, disseminating research information and attempting to guide policy, but the EU does not directly fund any programming. Suicide in teen populations across Europe has remained a major problem over the last 15 years that these action plans and frameworks have been implemented. To reduce teen suicide going into the next decade, more decisive action will be needed, and the EU is the only European body which can pass legislation to benefit, guide and instruct all EU member states. The EU has more potential to save teen lives than individual national legislatures do if nations are willing to

24 Ibid.

25 Ibid.

26 EU Joint Action on Mental Health and Wellbeing, "European Framework for Action on Mental Health and Wellbeing," The European Union, 2018.

27 Ibid.

28 Ibid.

29 Ibid.

30 Ibid.

31 Ibid.

32 Ibid.

33 Ibid.

34 Ibid.

follow up on actions taken by the EU to combat teen suicide.

In post-COVID-19 Europe, teen suicide rates are likely to be higher than in previous years.[35] Suicide and mental health issues should be aggressively addressed to curb rising rates and starting with a focus on the youth populations now will keep suicide rates lower for their generation, now and in the future.[36]

DISCUSSION OF OPTIONS

OPTION ONE:

Maintain the status quo

The maintenance of the status quo in the effort to reduce teen suicide in EU states would mean that two actions would continue; individual EU state discretion on the creation and implementation of strategies to address teen suicide and reduce its occurrence, and EU support of research for various programs which better mental health, including teen mental health. In this scenario the EU would only conduct research, provide states with best practices or suggested policies, review EU states' current activities, and promote the most successful preventions practiced. The primary benefit of this approach is that it is the simplest arrangement to achieve. It was made clear in the 2008 "Together for Mental Health and Well-Being" document that despite the effort to have an EU mental health directive made into law, it never came to pass.[37] This is why it is understood that individual state concerns about sovereignty act as a barrier to expansive mental health care reform across EU member states. The EU has not done more regarding mental health and specifically teen suicide because it cannot. Member states will not allow an EU-direct policy related to mental health. The current arrangement is the cheapest in the short term, especially for states who have little motivation, will or resources to improve their mental health systems or fund teen suicide prevention programs. Maintenance of the status quo remains a policy option simply due to its feasibility.

OPTION TWO:

Increase direct funding from the European Union for Mental Health and Teen Suicide Prevention Research

A compromise option that has the potential to lead to reductions in the teen suicide rate would be to increase funding for research on mental health and/or teen suicide prevention. The EU in 2015 committed only 60 million € from a total budget of 145 billion € to "health".[38] It is unclear how much of this funding is dedicated to mental health related topics. Most European countries' healthcare budgets represent about 10% of their GDP,[39] and within healthcare spending, around 2% to 10% of healthcare spending is allocated to mental health specifically.[40] Assuming the EU does roughly the same, that is somewhere between 1 and 6 million € that the EU could allocate towards mental health initiatives. This funding level is extremely limiting to potential initiatives in mental health research and to the development of programs to reduce teen suicide. This level even reduces the

35 Leo Sher, "The Impact of the COVID-19 Pandemic on Suicide Rates," QJM: An International Journal of Medicine 113, no. 10 (2020): pp. 707-712, https://doi.org/10.1093/qjmed/hcaa202

36 World Health Organization. "Adolescent Mental Health." World Health Organization. Accessed January 5, 2021. https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health.

37 The European Parliament. "Mental Health European Parliament Resolution of 19 February 2009 on Mental Health (2008/2209(INI))," February 19, 2009. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52009IP0063.

38 "EU Budget at a Glance." Publications Office of the EU, 2015., accessed January 5, 2021, https://op.europa.eu/en/publication-detail/-/publication/7472f901-0de2-4eee-bfa6-4373571146e1.

39 Eurostat, "Healthcare Expenditure Statistics," 2017., accessed January 5, 2021, https://ec.europa.eu/eurostat/statistics-explained/index.php/Healthcare_expenditure_statistics.

40 Worlds Health Organization. "Mental Health III, Funding Mental Health in Europe." European Observatory on Health Systems and Policies, 2005., accessed January 5, 2021, https://enil.eu/wp-content/uploads/2012/07/Mental-Health-III_Funding-mental-health-in-Europe.pdf.

EU's ability to actively support programs that it has recommended running at the individual state level in the past.

Increased funding for mental health and teen suicide prevention research does not necessarily need to be funded *directly* by the EU, the EU could recommend that all EU member states increase their own funding of mental health research and implement their own teen suicide prevention programs. An official directive for all EU member states to spend a minimum percentage of healthcare funding on mental health would have a positive influence. Either action, increased funding of EU mental health initiatives and research, or the EU making an agreement with member states to increase their own funding to mental health initiatives and research in relation to teen suicide prevention programs, has the potential to reduce teen suicide rates in EU countries over time. Beside the maintenance of the status quo, this second policy option is the least likely to face resistance by policymakers as it is less specific and cheaper than taking direct, focused action regarding teen suicide prevention. In short, this policy is politically feasible.

OPTION THREE:

Widespread Implementation of Suicide Prevention Programs in European Schools

Clinical trials in the EU and US have demonstrated that school-based suicide prevention programs can reduce both suicidal thoughts and attempts among students.[41] Trials in the Youth Aware of Mental Health Program (YAM) have reduced suicidal thoughts and suicide attempts in teens by as much as 50% over a 12-month period.[42] There are a number of programs that have trialed in EU and US schools with topics ranging from addiction and

depression to anger management and suicide.[43] These programs differ in their target audience, some tailored to primary school students and others to secondary school students. Programs that are not specifically focused on suicide prevention, such as programs for primary schoolers meant to teach students healthy coping habits and reinforce positive actions, could reduce teen suicide prevalence later in life.[44]

While many of these programs are in their infancy with limited effectiveness monitoring, more widespread implementation of a program such as YAM for secondary students across Europe, or even the implementation of programs for primary school students, is likely to reduce teen suicide rates over time by a considerable amount.[45] While it is very unlikely that the EU could get EU member states to agree in a binding fashion to adopt suicide prevention programs like YAM or groupings of similar programs across Europe, there is potential for the EU to set aside money to fund or partially fund programs such as YAM for states who are interested in running these programs in their public schools. This policy would entail direct EU funding of sponsored suicide prevention and/or mental health programs in schools for any willing EU state. This type of policy would in theory reduce teen suicide over time as more states implement these programs. If these programs did prove successful in some states, skeptical states might drop their resistance and begin implementing them, leading to further decreases in the teen suicide rate across the EU. This policy option while plausible, may meet resistance for being more expensive than maintaining the status quo or simply increasing funding for mental health and suicide prevention research.

41 Wasserman, Danuta. "School-Based Suicide Prevention Programmes: the SEYLE Cluster-Randomised, Controlled Trial." The Lancet 385, no. 9977 (April 18, 2015).

42 Ibid.

43 European Union. "Mental Health at Work, in Schools, Prevention of Depression and Suicide." Good Practices in Mental Health and Wellbeing. Accessed January 6, 2021. https://ec.europa.eu/health/sites/health/files/mental_health/docs/2017_mh_work_schools_en.pdf.

44 Kellam, Sheppard. "The Good Behavior Game and the Future of Prevention and Treatment." US National Library of Medicine National Institutes of Health, 2011.

45 Ibid.

OPTION FOUR:

Implement an Integrated, Holistic Approach to Teen Suicide Prevention

The notable weakness of policy option three is that it is not focused on the healthcare system as a whole. It is focused on reducing teen suicide by one specific action, implementing suicide prevention programs in schools. A holistic policy approach would address teen suicide less directly, instead strengthening mental health care across the EU as a whole to ensure that anyone can seek treatment, and that none feel stigmatized for doing so. The European Framework for Action on Mental Health and Wellbeing labels this type of wide-ranging focus as "Mental Health in all policies".[46] The MHiAP approach ensures that policy not primarily related to mental health still considers the potential impacts of said policy on the mental health of a population.[47] This approach also seeks to change current policy to reduce mental health inequalities in European society and not only strengthen mental healthcare but encourage cooperation between health and non-health sectors of society to improve attitudes towards mental health issues more broadly.[48] The hope is that over time this type of policy reduces burdens on mental health and some of the external causes of mental illness, resulting in reduced teen suicide rates. These policies would focus on the prevention of child abuse, major adversities, and other causes of mental illness in children.[49]

This style of legislation could reduce teen suicide and also strengthen mental wellness for all Europeans. This broader, integrated approach would be the hardest to sell to policy makers because of their perception of intrusion on state sovereignty. The EU is already recommending that state policymakers be aware of mental health and how legislation may affect mental health, however making such considerations a binding principle in all EU state constitutions is unlikely to happen.[50] Furthermore, while such a policy recommendation would arguably have the strongest positive impact on mental health and be the most effective in reducing teen suicide rates, the implementation of the policy could take years to achieve, as the adaptation of thousands of laws and institutions across the EU, as well as the combating of stigma against mental health in individual citizens, would take decades.

RECOMMENDED POLICY ACTION

In an ideal world options two through four would be implemented simultaneously as they complement each other and would likely generate a synergistic positive outcome. It is possible that over time, all three recommendations will be implemented. To make the most expeditious and efficient progress on the reduction and prevention of teen suicide in Europe, the current analysis recommends adoption of policy option three, Widespread Implementation of Suicide Prevention Programs in European Schools. It is the option with the highest political feasibility because it provides the highest value at only moderate costs. The other two policy recommendations, along with the status quo, do not have the same potential to reduce teen suicide in the immediate and effective matter that widespread implementation of prevention programs does. While some work may need to be done to ensure that prevention programs such as YAM or others can be effective across all states and cultures of the European Union, if suicidal thoughts and attempts are only reduced by half the amount they were in YAM trials, say 25%, and if one assumes that 90% of European students regularly attend school, that is still a 22.5% rate in teen suicide reduction.[51] This is compared to the EU teen suicide rate reduction from 2011 to 2015, which was less than 11%.[52]

46 EU Joint Action on Mental Health and Wellbeing, "European Framework for Action on Mental Health and Wellbeing," The European Union, 2018.

47 Ibid.

48 Ibid.

49 Ibid.

50 Ibid.

51 Wasserman, Danuta. "School-Based Suicide Prevention Programmes: the SEYLE Cluster-Randomised, Controlled Trial." The Lancet 385, no. 9977 (April 18, 2015).

52 Eurostat, "Eurostat Suicide Death Rate by Age Group," accessed January 5, 2021, https://ec.europa.eu/eurostat/databrowser/view/tps00202/default/table?lang=en.

The EU has a population of 446 million people.[53] Roughly 6% of the population falls into the age group of 15-19.[54] In 2014, this age group in the EU had a reported suicide death rate of 4.9 people per 100,000 individuals.[55] The total death count via suicide of teens aged between 15 and 19 can therefore be assumed to be around 1,312 across the EU in that year. A 22.5% decrease in teen suicide resulting from YAM programs is about 295 lives saved per year, a 45% decrease (assuming YAM is as effective as trials have shown it to be), is 590 lives saved per year. Applying the EPA determined value of life, (roughly 10 million $)[56], between 2,430,000,000 € and 4,861,000,000 € in terms of human life, could be saved every year.

It is important to note that these per annum numbers will fluctuate as suicide rates fluctuate. Also, all economists or countries do not agree with US EPA valuation of human life at 10 million $. Using a more conservative value of life, around 5 million $, an absolute minimum value of life saved based on these calculations is still around 1 billion € a year. These calculations show just how much there is to be saved by the implementation of EU-wide programs like YAM.

The minimum benefit calculation greatly outweighs the potential cost of YAM's widespread implementation. Even YAM's most expensive model program, which involves a practitioner traveling from a centralized location such as a university to teach YAM at a participating school, remains cost effective. YAM in Montana for example, costs $675 per section of 30 students.[57] If every secondary school student in the EU between the ages of 15 and 19 were to receive this training once, the yearly cost would be around 150 Million € a year.[58] There would be an initial investment to train practitioners which would add additional cost. Even based on estimations it is well within reason to assume that cost analysis backs up the widespread implementation of YAM. There are other ways to further reduce cost that have worked in YAM Montana, such as training local teachers to lead YAM programs, which reduced costs per session down to $400 per 30 students.[59]

The other policy options do not compare well and are harder to attempt to quantify. While the maintenance of the status quo could result in a continuation of the general decline in teen suicide documented over the last decade, this seems unlikely considering how COVID-19 has led to an increase in teen suicide rates for 2020 and 2021. The benefits of inaction do not exceed those of action through the implementation of suicide prevention programs. The second policy option is not direct enough in addressing teen suicide in that additional funding would not go to reducing the teen suicide rate by supporting the propagation of teen suicide prevention programs across the EU. This contrasts with policy option three. While additional funding for research programs is likely to benefit suicide prevention research specifically, there is more value now in direct action as solutions such as YAM which are proven to work, remain under-utilized. Lastly, policy option four, while likely to have a positive effect on the mental health of teens in the EU and on society as a whole, would not result in rapid, widespread changes in society, so the impact on teen suicide rates would not be as direct and measurable. This makes this option less politically feasible.

The current analysis concludes that option three is the best policy to be implemented because it is likely to save the most teen lives in the short term, untethered by delays inherent in other policy options. There is evidence that healthy teens are healthier adults, and the impact that less depression will have in the workforce will be a boon to productivity

53 Eurostat. "Living in the EU." European Union, January 12, 2021. https://europa.eu/european-union/about-eu/figures/living_en.

54 Eurostat. "Being Young in Europe Today - Demographic Trends." Being young in Europe today - demographic trends - Statistics Explained. Accessed January 31, 2021. https://ec.europa.eu/eurostat/statistics-explained/index.php/Being_young_in_Europe_today_-_demographic_trends.

55 https://ec.europa.eu/eurostat/databrowser/view/tps00202/default/table?lang=en

56 EPA. "Mortality Risk Valuation." EPA. Environmental Protection Agency, November 20, 2020. https://www.epa.gov/environmental-economics/mortality-risk-valuation#whatvalue.

57 Kelley Edwards (Program Manager for Youth Aware of Mental Health, Montana) in discussion with the author, January 2021.

58 Ibid.

59 Ibid.

overtime.[60] The benefits of decisive action now will save lives and make future generations healthier and more productive. Both effects accrue cost-savings to government and the public.

IMPLEMENTATION RECOMMENDATION

While a binding agreement made for all EU states to run suicide prevention programs in all European secondary schools would accomplish the greatest good for the greatest number of people in the shortest time, this approach is not politically feasible. The best compromise would be for the EU to make budgetary allocations directly to the states to implement and administer programs with documented records of success. This would respect and encourage the power of state sovereignty, allowing the states to learn from program trials in and outside the EU, to learn from each other's experiences, and enticing individual states to design and manage programs on their own initiative.

The EU should set aside somewhere between 30 Million and 75 Million € (Less than .05 percent of the EU budget at most) to support the implementation of YAM and similar teen suicide prevention programs. This support should cover at least 50% of costs associated with the implementation, management, and evaluation of said programs, and this funding should be renewed each year based on the success of said programs and demand by the EU states for further funding to support programs. If this policy is successful, over time implementation of YAM and other programs should be more common across the EU and overall costs should fall as more people are trained to facilitate this service in schools. 🌍

ADDITIONAL WORKS CONSULTED

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60 OECD, "OECD Mental Health Performance Framework," OECD Better Policies for Better Lives, 2018.

ABSTRACT

Mental Health and Wellbeing Figure

Eurostat, "Eurostat Suicide Death Rate by Age Group," accessed January 5, 2021, https://ec.europa.eu/eurostat/databrowser/view/tps00202/default/table?lang=en.
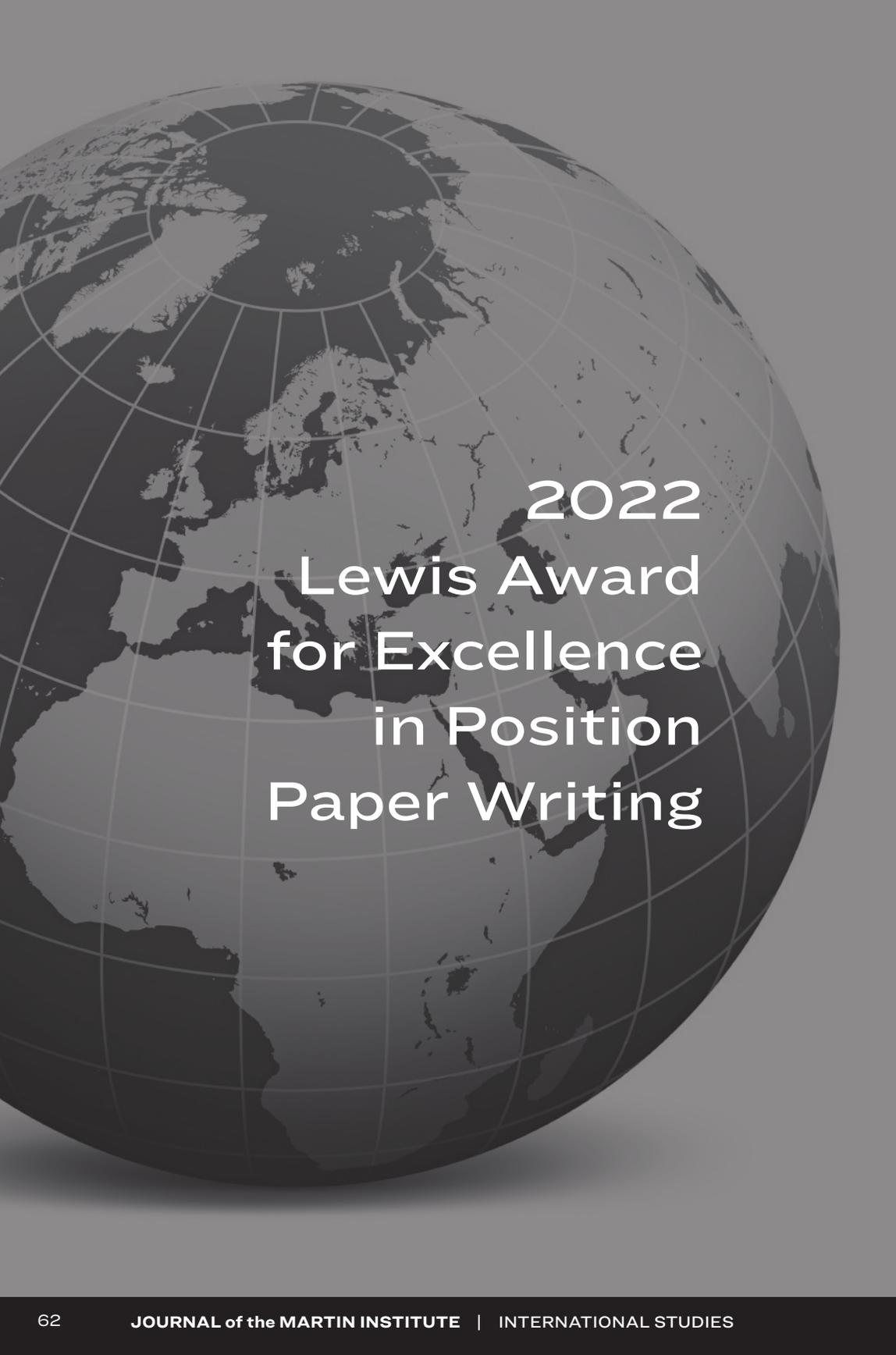

Fig. 1. The cycle of mental well-being

World Health Organization, "The European Mental Health Action Plan 2013–2020," World Health Organization Regional Office for Europe, 2015.

Teen Suicide Rates in Europe by year (Ages 15-19)

GEO / TIME	2011	2012	2013	2014	2015	2016	2017
European Union - 27 countries (from 2020)	4.85	4.82	4.76	4.9	4.35	4.21	:
European Union - 28 countries (2013-2020)	4.58	4.54	4.54	4.66	4.28	4.22	:
Euro area - 19 countries (from 2015)	:	:	:	:	:	:	:
Belgium	8.83	8.14	6.96	6.84	5.87	6.15	6.65 (a)
Bulgaria	4.96	6.34	3.97	5.38	3.19	2.57	3.53 (a)
Czechia	7.86	6.89	8.46	7.21	4.56	8.07	9.56 (a)
Denmark	3.63	4.74	4.76	4.79	1.42	3.14	4.31 (a)
Germany (until 1990 former territory of the FRG)	4.3	4.56	4.13	4.81	4.77	4.95	4.53 (a)
Estonia	11.28	4.52	7.96	16.45	16.64	8.37	8.35 (a)
Ireland	11.72	9.56	7.33	4.45	6.73	10.21	6.12 (a)
Greece	1.95	1.45	1.28	1.66	1.31	1.12	1.48 (a)
Spain	1.99	2.29	2.51	2.7	2.63	2.59	2.23 (a)
France	4.35	4.36	3.93	3.5	3.26	3.37	:
Croatia	3.69	4.89	6.5	8.21	5.83	6.52	4.11 (a)
Italy	2.86	1.97	2.25	2.55	2.47	2.11	2.45 (a)
Cyprus	0	4.97	3.53	3.71	1.91	1.96	2.81 (a)
Latvia	8.59	7.61	5.22	16.7	6.89	8.14	6.95 (a)
Lithuania	8.62	15.4	21.38	16.11	16.64	8.88	13.48 (a)
Luxembourg	0	9.42	3.1	9.23	3.84	0	6.83 (a)
Hungary	6.96	5.19	3.96	4.31	5.26	4.61	5.5 (a)
Malta	7.56	: (c)	0	8.03	8.17	0	8.69 (a)
Netherlands	3.99	4.62	5.33	5.31	4.06	3.8	6.72 (a)
Austria	6.1	4.33	6.1	9.02	6.71	6.55	5.33 (a)
Poland	8.96	8.96	9.06	9.48	8.33	6.57	7.03 (a)
Portugal	1.42	1.8	2	2.55	1.62	1.79	2.15 (a)
Romania	6.6	5.84	5.42	4.52	5.64	3.98	5.17 (a)
Slovenia	7.9	1.01	6.14	5.21	5.27	8.5	3.21 (a)
Slovakia	3.52	4.32	4.85	4.04	2.42	5.32	3.65 (a)
Finland	13.03	13.57	10.09	9.35	5.59	7.34	10.43 (a)
Sweden	9.25	5.93	7.22	7.47	6.48	5.51	7.26 (a)
Iceland	4.31	: (c)	4.42	8.98	18.09	18.16	0 (a)
Liechtenstein	: (c)	0	: (c)	: (c)	: (c)	: (c)	: (a)
Norway	8.33	6.76	7.86	3.37	4.59	10.13	10.2 (a)
Switzerland	5.56	7.41	5.79	6.14	7.98	4.57	6.68 (a)
United Kingdom	2.95	2.8	3.19	3.19	3.9	4.27	4.69 (a)
Montenegro	:	:	:	:	:	:	:
North Macedonia	:	:	:	:	:	:	:
Albania	:	:	:	:	:	:	:
Serbia	1.96	2.5	2.57	2.13	4.69	2.26	3.14 (a)

2022
Lewis Award
for Excellence
in Position
Paper Writing

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 were Taylor James and Shaelyn Mills, who wrote about Nepalese positions on a pair of topics in the General Assembly Second Committee simulation at NMUN 2022. Congratulations to them both; here is there paper in its entirety.

Delegation from Nepal

*Position Paper
for the General Assembly
Second Committee*

**2022 National Model
United Nations Conference**

The issues presented before the General Assembly Second Committee are as follows: The Convention on Biological Diversity and Its Contribution to Sustainable Development and the Continued Implementation of the Third United Nations Decade for the Eradication of Poverty (2018–2027). Nepal is a member of the Convention on Biological Diversity (CBD) and works closely with the United Nations Development Programme (UNDP). Nepal is committed to the following issues:

I. THE CONVENTION ON BIOLOGICAL DIVERSITY AND ITS CONTRIBUTION TO SUSTAINABLE DEVELOPMENT

Nepal has been a member of the Convention on Biological Diversity since 1994 and, as a biodiversity hotspot, recognizes the need for regional cooperation in the conservation of biodiversity and the sustainable development of nature and its resources. Nepal signed the Cartagena Protocol in 2001, agreeing to the regulation of living modified organisms and their movement between countries. In 1995, Nepal established the Federation of Community Forestry Users to provide a policy framework for Forest User Groups in Nepal and to encourage the sustainable development of local forests and utilization of resources to reduce poverty. In 2011, Nepal co-sponsored Resolution 66/205, which calls for transboundary collaboration to promote sustainable mountain development in regards to mountain communities, and includes the impact on biological diversity. Nepal is a member of the International Centre for Integrated Mountain Development (ICIMOD), a regional intergovernmental organization dedicated to strengthening cooperation for conservation and sustainable mountain development. At the ICIMOD webinar in 2021, Nepal's Prime Minister reiterated support for the Post-2020 Global Biodiversity Framework, and shared Nepal's success in achieving a zero-poaching year.

Nepal, as a member of the South Asia Co-operative Environment Programme (SACEP), recognizes the importance of cooperating with other states to protect biodiversity. Within the South Asia region, Nepal works in tandem with SACEP to share knowledge and resources with other member states to address issues such as capacity development, and assist with the creation of the National Biodiversity Strategy and Action Plan (NBSAP). Nepal developed their NBSAP (2014-2020) under the Convention on Biological Diversity with an overarching goal of sustainably developing natural environments and protected areas to improve the economy and ensure equitable community benefits from the utilization of resources. Within the NBSAP, the Ministry of Forests and Soil Conservation of Nepal states that it "...will leave no stone unturned in taking the lead in implementation of the strategies and priority actions included in this document." In 2018, Nepal acceded to the Nagoya Protocol, an international agreement that provides a legal framework for the implementation of the fair and equitable sharing of benefits arising out of the utilization of genetic resources. Nepal's most recent Nationally Determined Contribution for the Paris Climate Agreement sets forth the goal of ensuring fair and equitable benefits for local communities, women and Indigenous people through the sustainable management of forests and biodiversity conservation. In December of 2021, Nepal supported a resolution to proclaim 2022 the "International Year of Sustainable Mountain Development". As a mountainous state itself, Nepal recognizes the importance of properly regulating and conserving mountainous regions and their contributions to biodiversity.

Nepal is committed to fostering partnerships that holistically address pressing environmental concerns and promote the growth necessary to create a more sustainable future for all people and the planet. As a key supporter of the implementation of the International Year for Sustainable Mountain Development, Nepal will continue to recognize that there is more work to be done to address issues of environmental degradation. Nepal, along with other mountainous states, invites UN member states to observe the International Year and voluntarily implement projects that support mountain development. Following the first session of the Conference of Parties 15 (COP 15), Nepal reiterates the important role that mountain communities play in global environmental issues and urges world leaders to recognize the vulnerability of the high mountains, and afford them high priority at the second COP 15 session. Nepal also continues to support the CBD's decision to adopt the 2050 Vision for Biodiversity. Furthermore, Nepal remains committed to SDG 15: Life on Land and believes that urgent action must be taken to reduce the loss of natural habitats and biodiversity. Nepal acknowledges that in order to achieve the 2030 Sustainable Development Goals we must take further action towards protecting and conserving biodiversity for the benefit of all people.

II. CONTINUED IMPLEMENTATION OF THE THIRD UNITED NATIONS DECADE FOR THE ERADICATION OF POVERTY (2018–2027)

As a recently graduated Least Developed Country (LDC), Nepal recognizes the importance of approaching the issue of poverty eradication holistically and has historically supported the UN's efforts to do so. In 1988, Nepal voted in support of a resolution to promote international cooperation on the eradication of poverty within developing nations. At the 1995 Copenhagen World Summit, Nepal worked with other countries to establish a people forward approach to development, and its contributions to the conquest of poverty. Nepal has worked closely with the UNDP to establish programs that work towards the eradication of poverty, including efforts to provide opportunities to generate income within impoverished communities. With help from the UNDP, Nepal was able to decrease poverty from 25.2% in 2011 and to 21.6% in 2015. In 2018, Nepal voted in support of Resolution 73/244, which aims to eradicate rural poverty to implement the 2030 Agenda.

In voicing its support for the establishment of the Third Decade, Nepal emphasized its commitment to achieving this goal through collaborative efforts. The Government of Nepal currently works with the UNDP to achieve inclusive economic growth by implementing initiatives such as the Value Chain Development of Fruit and Vegetables project. The project currently works to support 10,000 smallholder farms throughout Nepal and aims to increase income and decrease poverty amongst farmers. The South Asia Association for Regional Cooperation (SAARC), which was founded by Nepal, works to address poverty alleviation and implements programs to do so through the SAARC Plan of Action on Poverty Alleviation, in collaboration with the Asian Development Bank (ADB).The ADB, of which Nepal is a member, is currently working in the South and Southeast Asia region to address COVID-19's impact on poverty and food security in rural communities. At the end of 2021, the ADB began implementing the Green and Resilient Rural Recovery through Agri-Food System Transformation in the Asia and Pacific Region program with the goal of assisting rural communities that have seen exacerbated levels of poverty. Along with addressing how COVID-19 has disproportionately affected vulnerable communities, it is also a priority of Nepal's to ensure that the entire eligible population is vaccinated, with the goal of doing so by mid-April 2022. Since their creation in 2015, Nepal has been committed to achieving the Sustainable Development Goals and has reaffirmed its dedication to achieving SDG 1: End Poverty in All its Forms Everywhere by being involved with the 15th Development Plan and the 25 Year Long-Term Vision 2100, which has mainstreamed the goals within Nepal and created objectives for achieving them. On a national level, Nepal has implemented its 15th Development Plan, which aims to reduce poverty in Nepal to 11% by 2024.

It is the intention of Nepal to work in collaboration with other member states on a regional and global level to ensure that the issues affecting all of humanity are addressed to create a healthier and more equitable future for all. Nepal will remain committed to the Eradication of Poverty through its contributions to the SDGs and its work with the UNDP. Recognizing the adverse effects of the pandemic on global progress towards achieving the SDG's, Nepal urges other countries to participate in regional and international partnerships to resume progress towards achieving these necessary goals with emphasis on SDG 1: End Poverty in All its Forms Everywhere. To mitigate the impact of COVID-19's effect on poverty, Nepal believes it is the responsibility of nations to ensure equitable access to vaccines for everyone, everywhere. As stated by Nepal's Minister for Foreign Affairs, "People's lives should come first. Vaccines must be declared as public goods for the benefit of people's lives." In the coming months, Nepal will attend the LDC5 conference to discuss achievements made through the Istanbul Programme of Action for the Least Developed Countries and establish future goals as a part of a new ten year program of action. Furthermore, at the Eighteenth SAARC Summit Nepal encouraged the sharing of expertise among member states in order to achieve sustainable economic growth and will continue to do so in the future. It is the mindset of Nepal that there is no better time than now to address these prevalent issues, and that it is vital the international community do so together. 🌍