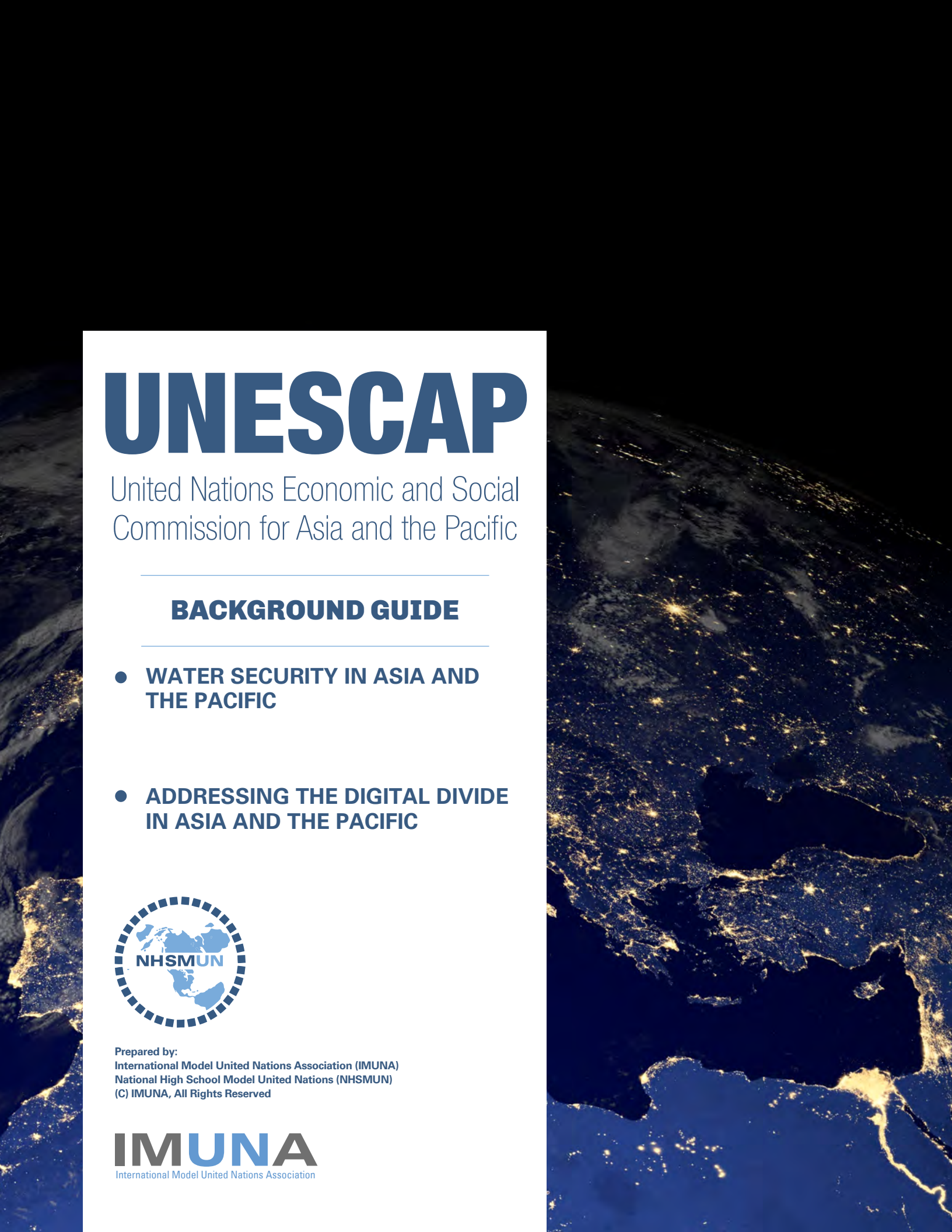

UNESCAP

United Nations Economic and Social Commission for Asia and the Pacific

BACKGROUND GUIDE

- **WATER SECURITY IN ASIA AND THE PACIFIC**

- **ADDRESSING THE DIGITAL DIVIDE IN ASIA AND THE PACIFIC**

NHSMUN

Prepared by:
International Model United Nations Association (IMUNA)
National High School Model United Nations (NHSMUN)

IMUNA
International Model United Nations Association

National High School Model United Nations

The 44th Annual Conference: March 2-5, 2018 | March 7-10, 2018

E: nhsmun@imuna.org T: +1 (212) 652-9992 W: www.nhsmun.nyc

July 2017

Dear Delegates,

Welcome to NHSMUN 2018! My name Vijay Vobbilisetty, and I am the Session I Director of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). My co-Director, Martin Cassinelli, and I went to great lengths to find the most riveting and pressing topics to discuss during committee session. Water Security in the Asia-Pacific and Addressing the Digital Divide are immediate issues affecting the region. These topics will require you to think outside of the box and approach the topics from different angles in order to adequately address the many intricacies in each. Through research and collaboration, I know that all of you will assemble comprehensive solutions that enhance the Asia-Pacific region.

Although I never participated in NHSMUN as a delegate, this conference really redefined what Model UN means to me. As an Administrative Director last year, I was able to get a behind-the-scenes perspective of running a conference and the effects the NHSMUN experience has on delegates outside of committee. This year, I get to experience the other side of the conference from the dais and with all you wonderful delegates.

I am currently a junior studying Biomedical Engineering at the University of Michigan. Model UN is a big part of my life, even after high school. Outside of NHSMUN, I also help run the conference MUNUM in Ann Arbor and compete at the collegiate level. When I am not in WBA, you can find me on the tennis courts or simply snuggled up in my room binge watching my favorite TV shows.

I am looking forward to seeing each and every one of you next March and hearing all of your ideas to address these pressing issues. Make sure to read this background guide and utilize it as a resource to augment your research. Please do not hesitate to contact me at any time with any questions, comments, or suggestions!

Sincerely,

Vijay Vobbilisetty
vijay.vobbilisetty@imuna.org
UN Economic and Social Commission for Asia and the Pacific
Session I

NATIONAL HIGH SCHOOL MODEL UNITED NATIONS

The 44th Annual Conference: March 2-5, 2018 | March 7-10, 2018

E: nhsmun@imuna.org T: +1 (212) 652-9992 W: www.nhsmun.nyc

July 2017

Dear Delegates,

It is my pleasure to welcome you to NHSMUN 2018! My name is Martin Cassinelli and I am the Director of Session II for the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). My co-Director, Vijay, and I carefully selected this year's topics to make the most intellectually-stimulating and dynamic debate possible. I am incredibly excited to hear all of your ideas and solutions in March for our two great topics.

I originally come from Lima, Peru, and at the moment I am studying Political Science and Economics at the University of Freiburg in Germany. In addition to working for NHSMUN, I like to attend to as many MUN conferences as possible here in Germany and Europe. Aside from MUN, I also like to engage in Latin American politics, and on a broad basis, discuss politics. Watching a good movie, reading a great book, and listening to some folk-pop are also great passions of mine.

Throughout my years in high school I participated in my school's local MUN program as a delegate for three years and presided over our conference in my fourth year. In 2015, I had the immense luck of being selected to represent my school at that year's NHSMUN conference. For me, as a non-native English speaker, having to debate and defend my ideas in front of a large crowd posed a great challenge, at first. Nonetheless, looking back, I consider my experience as a delegate in NHSMUN a life-changing one. Travelling to New York and being able to debate and share my ideas at the highest level is one of my most fond memories from high school. It is because of this experience that I decided to enroll as a NHSMUN staffer, where I chaired as an Assistant Director for the International Atomic Energy Agency (IAEA) committee last March.

From now until we meet in March, you will have to engage with the topics presented in this background guide. Both topics are highly interesting and are currently very pressing in the spheres of international politics. These issues, however, pose complex problems that require in-depth research and preparation. This background guide ought to help and motivate you to prepare your best work for the debate at NHSMUN. Do not hesitate to contact me with any questions about this guide, the conference, or life in general. Best of luck!

I cannot wait to see you all in March, and listen to your great ideas!

Sincerely,

Martin Cassinelli
martin.cassinelli@imuna.org
UN Economic and Social Commission for Asia and the Pacific
Session II

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A NOTE ON THE NHSMUN DIFFERENCE

Esteemed Faculty and Delegates,

Hello and welcome to NHSMUN 2018! My name is Paige Petrashko and I am this year's Director-General. I hope you are as thrilled as I am to prepare for and attend the world's largest Model United Nations conference this March!

A space for collaboration, consensus, and compromise, NHSMUN strives to help transform today's brightest thinkers into tomorrow's leaders. Our organization provides a uniquely tailored experience for all those in attendance through innovative and accessible programming. We believe that an emphasis on education through simulation is paramount to the Model UN experience, and this model permeates throughout NHSMUN.

Strong knowledge foundation for debate: Substantively rigorous debate relies on thorough topic knowledge for both delegates and staff members. To assure this high quality of debate, our staff members produce extremely detailed and wide-reaching topic overviews (like the one below) to prepare delegates for the complexities and nuances inherent in global issues. This process takes six months, during which the Directors who lead our committees choose and develop their topics with the valuable input of expert contributors. Because these topics are impossible to fully address in a short background guide, NHSMUN also produces update papers that are intended to bridge the gap between when the background guides are published and when committee starts in March. As such, this guide is designed to be a launching point from which delegates should investigate further into their committee topics.

Extremely prepared staff: Deep topic knowledge through researching and writing this background guide is only one part of the preparation process for our staff members. Prior to the conference, the Directors and Assistant Directors are trained rigorously through copious hours of both virtual and in-person exercises and workshops. Beyond this, our Directors and Assistant Directors read every position paper submitted to NHSMUN to not only tailor the committee experience to the reflections and research of the delegates, but also to leave comments and provide thoughtful feedback to delegates.

Realistic simulation: NHSMUN delegates, like the UN delegates they represent, are exposed to accurate simulation from the moment they step into committee until they leave the last session. In part with this, just like UN representatives must prioritize certain issues, each committee will select one issue to debate from the two presented in its background guide. We believe that in order to properly delve into an issue and produce fruitful debate, it is crucial to focus the energy and attention of the room to one topic. NHSMUN also utilizes a standard Rules of Procedure to reinforce consistent and practical simulation throughout the conference. For delegates of all skill levels and amounts of Model UN experience, reviewing the Rules of Procedure (which can be found on NHSMUN's website) prior to the conference is strongly encouraged.

Focused committee time: NHSMUN prohibits the use of any electronic devices during committee sessions. We feel strongly that face-to-face interpersonal connections during debate are critical to

producing superior committee experiences and allow for the free flow of ideas. Ensuring a no-laptops policy is also a way to guarantee that every delegate has an equal opportunity to succeed in committee. We staff a very dedicated team in our office who type up and format draft resolutions and working papers so that committee time can be focused on communication and collaboration. Please note that the dais is permitted a laptop for communicating with respective Under-Secretaries-General and other members of Senior Staff, as well as for administrative needs.

Educational emphasis, even for awards: At the heart of NHSMUN lies education and compromise. As such, when NHSMUN does distribute awards, we de-emphasize their importance in comparison to the educational value of Model UN as an activity. NHSMUN seeks to reward schools whose students excel in the arts of compromise and diplomacy. We always prioritize a dedication to teamwork over solitary achievement. As such, we do not distribute awards to individual delegates, with the exception of committees where students represent their own separate delegation (our Specialized Agencies such as ICJ and UNSC, for example). Instead, awards will be distributed to schools whose delegates exhibit excellence across all committees. The awards system is standardized so as to give equal weight to schools and delegations of all sizes. Detailed information on the determination of awards at NHSMUN will be available in our conference program and guides.

As always, I welcome any questions or concerns about the substantive program at NHSMUN 2018 and would be happy to discuss NHSMUN pedagogy with faculty or delegates.

Delegates, it is my sincerest hope that your time at NHSMUN will be thought-provoking and stimulating. I look forward to seeing you grow as both students and global citizens at the conference.

Best,

Paige Petrashko
Director-General
dg.nhsmun@imuna.org

A NOTE ON RESEARCH AND PREPARATION

Delegate preparation is critical to a successful and exciting National High School Model United Nations 2018 Conference. We have provided this background guide to introduce the topics that will be discussed in your committee. This guide is designed to give you a description of the topics and the committee, but it is not intended to represent exhaustive research on every facet of the topics. We encourage and expect each delegate to fully explore the topics and be able to identify and analyze the intricacies of the issues when they arrive to the conference in March. Delegates must be prepared to intelligently utilize their knowledge and apply it to their own country's policy. You will find that your state has a unique position on the topics that cannot be substituted by the opinions of another state and that may not be represented in this guide.

The task of preparing for the conference can be challenging, but we have published Beginner and Advanced Delegate Guides which, among other sections, contains detailed instructions on how to effectively participate in committee sessions and how to write a position paper. These guides also give a synopsis of the types of research materials and resources available to you and where they can be found. Use these resources to your advantage – it can help turn a sometimes overwhelming task into what it should be: an engaging, interesting, and rewarding experience.

An essential part of representing a state in an international body is the ability to articulate that particular state's views in writing. Accordingly, NHSMUN requires each delegation (the one or two delegates representing a country in a committee) to write a position paper for both topics on the committee's agenda. Position papers should be structured into three sections, described below.

- **I: Topic Background –** This section should describe the history of the topic as it would be described by the delegate's country. Delegates do not need to give an exhaustive account of the topic background, but rather focus on the details that are most important to the delegation's policy and proposed solutions.
- **II: Country Policy –** This section should discuss the delegation's policy regarding the topic. Each paper should state the policy in plain terms and include the relevant statements, statistics, and research that support the effectiveness of the policy. Comparisons with other global issues are also appropriate here.
- **III. Proposed Solutions –** This section should detail the delegation's proposed solutions to address the topic. Descriptions of each solution should be thorough. Each idea should clearly connect to the specific problem it aims to solve and identify potential obstacles to implementation and how they can be avoided. The solution should also clearly be a natural extension of the country's policy.

Each topic's position paper should be no more than **10 pages** long double-spaced with standard margins and font size. We recommend 2-4 pages per topic as a suitable length. The paper must be written from the perspective of the country you are representing at NHSMUN 2018 and should articulate the policies you will espouse at the conference. The papers will be reviewed by the Director of each committee and returned prior to your arrival at the conference, with brief comments or constructive advice.

Each delegation is responsible for sending a copy of their papers to their committee Directors via our online upload process on or before **January 19, 2018**. Complete instructions for how to submit position papers will be sent to faculty advisers via the email submitted at registration. If delegations are unable to submit their position papers on time, they should contact the Director-General (dg.nhsmun@imuna.org) as soon as possible.

Delegations that do not submit position papers to directors will be ineligible for awards.

COMMITTEE HISTORY

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) was established in 1947 as the Economic Commission for Asia and the Far East (ECAFE) to assist in post-war economic reconstruction.[1] In 1974, the name was changed to reflect both the economic and social mandate it addresses, as well as the geographic location it now encompasses.[2] Three years later, in 1977, the United Nations (UN) General Assembly broadened its mandate to become one of the most influential economic and social commissions within the five regions in the world.[3]

At the second session of the Commission, held in Bangkok in 1947, the member states requested the secretariat to publish a comprehensive annual survey of economic conditions and problems of the countries within the scope of the Commission which lead to UNESCAP publishing the Economic and Social Survey of Asia and the Pacific on a yearly basis.[4] This publication is now the flagship publication of UNESCAP. As the region continued to change, the survey's analytical narrative shows how the region was transformed from a rather poor and peripheral region, to the center of global economy.

UNESCAP is the regional headquarters of the UN Secretariat in Asia and the Pacific, an area inhabited by nearly 4.3 billion people. The Commission consists of 53 members and nine associate members.[5] Member States stretch from Turkey in the west to the Pacific island state of Kiribati in the east, and from the Russian Federation in the north to New Zealand in the south. Non-regional countries, such as France, the United States (US), and the United Kingdom (UK), are also members of the Commission. These countries have overseas territories in the Asia and Pacific region that must have representation, such as French Polynesia, American Samoa, and the Pitcairn Islands.

In 2012, after the Conference on Sustainable Development was held in Rio de Janeiro, Brazil, UNESCAP set its main goal to achieve sustainable development the Asia and the Pacific region. Then in 2015, UNESCAP took a big step towards achieving this goal through a resolution that restructured the Commission's internal organization, thus narrowing its mandate and fostering the financing for development.[6] UNESCAP thereby requested a more active participation and cooperation of local institutions which was crucial for the proper development of sustainability policies.[7]

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[1] "History," *United Nations Economic and Social Commission for Asia and the Pacific,* accessed 19 May 2017, http://www.unescap.org/about/history.
[2] Ibid.
[3] Ibid.
[4] "Asia and the Pacific, a Story of Transformation and Resurgence," *UNESCAP* (2014): 1, accessed 20 May 2017, http://www.unescap.org/sites/default/files/Asia%20and%20the%20Pacific-A%20Story%20of%20Transformation%20and%20Resurgence.pdf.
[5] Ibid.
[6] I E/ESCAP/RES/71/1, "Restructuring the conference structure of the Commission to be fit for the evolving post-2015 development agenda," 2 June 2015, accessed 24 May 2017, http://www.unescap.org/sites/default/files/E71_RES1E.pdf.
[7] Ibid.

SIMULATION

The NHSMUN simulation of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) will closely resemble the actual United Nations committee. Using the same format and structure, we will act as the Commission, the main legislative organ of UNESCAP which meets annually at the ministerial level and reports its activities to the UN Economic and Social Council. As ministers of your individual countries, we will set the agenda, discuss the various issues associated with each topic, create innovative solutions and transfer our ideas into comprehensive written resolutions. However, as ministers of this committee, you must remember that UNESCAP, like many other committees of the United Nations, cannot demand action or condemn any country. The role of this body is to suggest actions and solutions for the Asia Pacific Region that countries can implement on their own; therefore, the solutions that we formulate must be the result of consensus building and applicable and manageable for all constituent states of UNESCAP. However, despite the value in manageable and applicable resolutions, compromise should not be considered when it contradicts a country's position. As ministers, you must advocate your state's policy and at the same time, consider what other solutions foreign ministers can potentially propose that will aid in the amelioration of the problems your respective state addresses.

The structure of debate will involve two main forms of discussions: formal debate and caucusing. Formal debate will involve the use of a Speakers List, where each speaker has a set amount of time to address their country's position. The delegate also has the option of taking questions or yielding to another speaker of their choice, if they so choose. Another integral part of debate is caucusing. Caucusing exists through two modes: the moderated caucus and the unmoderated caucus. The moderated caucus allows the chair to suspend the speakers list and recognize countries who intend to contribute substantive input to a specific issue. Whereas the Speakers List will address all issues related to the agenda topic, a moderated caucus will focus in on a certain problem within the parameters of the greater issue being discussed. The moderated caucus ideally proceeds in a quicker fashion than the Speakers List, but provides delegates with less options, given that they cannot yield their time to anyone other than the chair. Unmoderated caucus is a type of debate where the rules are suspended for a set period, allowing countries to speak in an informal setting. This caucus allows delegates to work together in writing working papers and resolutions, moving throughout the space and discussing issues and solutions with anyone at any time.

Our topics for NHSMUN 2018's UNESCAP committee are challenging and will require in-depth research and analysis. Although delegates are strongly encouraged to research solutions that have worked in their respective countries and other viable solutions, it must be stressed that pre-written working papers or resolutions are strictly forbidden. The purpose of this committee is to work together and formulate solutions that can be implemented throughout the Asia-Pacific Region. Listening to other delegates and learning from each other is a fundamental aspect of our simulation.

Decorum is expected to be maintained at all times throughout the debate, which will function under an expectation of mutual respect for both the delegates and the dais. The dais will consist of the Director and the Assistant Director. Although the role of the Director and the Assistant Director is to facilitate the flow of the debate through their knowledge of procedure, both are experts on the substantive issues that the committee will be addressing and are more than willing to answer any questions outside of formal debate that delegates may have.

It is incredibly important that both members of the dais are treated with the same level of respect and that this level of respect be maintained throughout the course of the conference so that debate can flow quickly and in a manner that is ultimately most enjoyable for all of you. The Director will address your concerns or questions regarding any aspect of committee. Please use them as a resource to any of the substantive material, especially if you have questions about your position or any aspects of the topics. If you have difficulty in adhering to the structure of our simulation, please also feel free to ask either the Director or Assistant Director to explain any technical terms. You may contact them at any time whether it is during or before the conference. Although the dais will be facilitating debate, as delegates, you are the ones that will be creating and writing resolutions, just like real ministers in the UNESCAP Commission. It will be refreshing to hear your insights on these topics!

TOPIC A: WATER SECURITY IN ASIA AND THE PACIFIC

INTRODUCTION

Water is vital for the survival of human societies. It is not only an essential source of life for the human body, but also a crucial element of any country's economic, social, and political system. Further, it is an input to all means of production, including agriculture, energy, and industry. Accessing water and proper distribution of water has been a major concern of societies throughout history. Water resource development and management remain at the core of the struggle for growth, sustainable development, and poverty reduction. A majority of developed countries in the region began to invest early in water infrastructure, institutions, and management capacity.[8] Alternatively, developing countries, mostly with commodity-based economies, have historically struggled to implement these sets of policies. Commodity-based economies are backed by primary sector activities, such as mining, farming, or energy.[9] There is an overall consensus that water development and capacity management are essential to generate wealth, mitigate risk, and reduce poverty.[10] This means that many developing countries will need to make large investments into water development, taking into consideration lessons from the past, such as greater attention to institutional development, the environment, and a more equitable share of benefits and costs.

To properly address the issues and challenges concerning water in Asia and the Pacific, the term "water security" was coined by the scientific community.[11] This term is a more holistic consideration of both water resource management and service delivery. The United Nations (UN) defines it as "the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio economic development."[12] This, in turn, will theoretically allow these communities to safeguard their population "against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability."[13] To precisely analyze and monitor the developments of water security, a Water Security Index was developed by the Asian Development Bank (ADB).[14] The five key dimensions that this term encompasses are as follows: household water security (providing all people with safe and reliable water), economic water security (productive use of water to sustain economic growth), urban water security (creation of better water management and services to support livable water-

[8] David Grey and Claudia W. Sadoff, "Water for Growth and Development," *A Theme Document of the 4th World Water Forum* (2006): 7, accessed 5 July 2017, http://siteresources.worldbank.org/INTWRD/Resources/FINAL_0601_SUBMITTED_Water_for_Growth_and_Development.pdf.
[9] Ibid., 8
[10] Ibid.
[11] "Asian Water Development Outlook 2016: Strengthening Water Security in Asia and the Pacific," *Asian Development Bank* (2016): xiv, accessed 5 July 2017, https://www.adb.org/sites/default/files/publication/189411/awdo-2016.pdf.
[12] "Water Security and the Global Water Agenda: A UN-Water Analytical Brief," *United Nations Institute for Water, Environment, and Health* (2013): vi, accessed 25 May 2017, http://www.unwater.org/downloads/watersecurity_analyticalbrief.pdf.
[13] Ibid.
[14] "Asian Water Development Outlook 2016," 21.

sensitive cities), environmental water security (restoring healthy ecosystems), and resilience to water-related disasters (building resilient and adaptable communities).[15]

HISTORY AND DESCRIPTION OF THE ISSUE

The Asia and Pacific region specifically has witnessed an important transition in the past two decades. According to the UN Sustainable Development Goals (SDGs), extreme poverty refers to an individual that lives on less than USD 1.25 a day.[16] From 1990 to 2012, more than one billion people in the region were lifted out of extreme poverty.[17] However, this region faces massive water insecurity problems. Half of the world's poor live in the Asia and Pacific region, though it only houses 60% of the world's total population.[18] Agriculture, one of the region's most prominent industries, consumes 80% of the region's water resources, making it an important but threatened commodity.[19] As of now, 1.7 billion people lack access to basic sanitation, and studies estimate that 3.4 billion people could be living in water-stressed areas in Asia by 2050.[20] Water-stressed areas are defined as areas in which water is not necessarily scarce, but also in which the water quality is deteriorated and cannot be used for further purposes.[21] Industrialization and economic transformation in the region will increase the demand for water, especially considering this demand is located in a rapidly developing region. It is projected that by 2050 the region's water demands could increase by more than 55%.[22] This will be especially apparent in the agriculture sector, where the agricultural industry in the area will have to double its food production rates in order to meet increasing demand.[23] All of this will have to be accomplished using diminishing water resources. To add to the existing set of hurdles, an increasingly varying climate, which is more prone to water-related disasters, makes this task even more difficult.

When examining the progression of water security in the region as a whole, one must take into consideration the large disparities between the different countries. Having implemented a set of policies throughout the decades, industrial and developed countries, such as Australia, Japan, New Zealand, and Singapore, have rather high standards of water security.[24] On the other side of the spectrum are developing countries, such as Afghanistan, India, Pakistan, and small Pacific islands, Kiribati and Vanuatu. These countries have low or very low water security standards and are still

[15] Ibid.
[16] "Goal 1: End poverty in all its forms everywhere," *Sustainable Development Goals,* accessed 12 September 2017, http://www.un.org/sustainabledevelopment/poverty/.
[17] Ibid.
[18] Ibid.
[19] Ibid.
[20] Ben Gruber, "By 2050 Asia at high risk of severe water shortages: MIT study," *Reuters*, last modified 14 April 2016, https://www.reuters.com/article/us-asia-water-crisis-tracked/by-2050-asia-at-high-risk-of-severe-water-shortages-mit-study-idUSKCN0XB207.
[21] Peter Schulte, "Defining Water Scarcity, Water Stress, and Water Risk: It's Not Just Semantics," *Pacific Institute*, last modified 4 February 2014, http://pacinst.org/water-definitions/.
[22] OECD, *Environmental Outlook to 2050: The Consequences of Inaction*, (OECD Publishing, 2012), accessed 25 May 2017, http://www.keepeek.com/Digital-Asset-Management/oecd/environment/oecd-environmental-outlook-to-2050_9789264122246-en#.WSaIxFJWHow#page1.
[23] Ibid.
[24] Asian Water Development Outlook 2016," 26.

struggling to implement policies that will foster human well-being and socio-economic development in the long term.[25]

Household Water Security

Household water security mainly encompasses availability and human access to water and sanitation.[26] Access to water and sanitation is a basic human need, inextricably linked with health, mitigation of disease, and basic standards of living.[27] Supplying water to the world's poor has been high on the international community's agenda for the last several decades. Water supply started taking a protagonist role for the UN towards the end of the 1970s as focus on the environment and human health became a wider focus in the international community.[28] No longer were these concerns restricted to isolated regions, and the decade from 1980 to 1990 was formally declared the UN Water and Sanitation Decade.[29] Yet, many countries struggled to maintain progress with the population boom the region would experience in the coming decades. In the year 2000, the 2015 Millennium Development Goals (MDGs) were set by the UN.[30] One key goal was to safeguard access to water and sanitation for as many people as possible by the year 2015.[31] Whereas other developing regions, such as Africa or Latin America, did not meet their targets, most Asian sub-regions reached the MDG target with the exception of Oceania and Southern Asia.[32] The Asian Water Development Outlook, a comprehensive report made by the ADB, showed a similar trend. Regarding access to piped water supply, the general trend shows increased access. However, more than half of the region's countries have access rates lower than 50%.[33] A portion of this can be attributed to the statistical skew that areas with a relatively dramatic increase in water supply can give to the data, but the regions of South Asia and the Pacific still lag behind with access rates of 28% and 17% respectively.[34] The access to piped water is directly correlated with improved sanitation and hygiene. Levels of sanitation and hygiene within the region show an almost exact trend with East Asian countries performing well and South Asia and the Pacific considerably lagging behind.[35]

Disparities exist not only between the different regions, but also between rural and urban populations. This visual disparity exists in some of the region's most populous cities in close proximity to each other. While it is true that more than half of the developing economies in Asia and the Pacific have considerably narrowed the urban-rural gap, including such countries as Armenia, Georgia, and Thailand, inequalities in Eastern and Southern Asia persist. For instance, in the Central and Southern Asia region, 72% of the urban population has access to piped water, but only 28% of

[25] Ibid.
[26] "Water Supply," *Water, Sanitation and Hygiene – UNICEF*, last modified 30 June 2015, https://www.unicef.org/wash/index_watersecurity.html.
[27] Ibid.
[28] Karen Bakker et al., "Governance Failure: Rethinking the Institutional Dimensions of Urban Water Supply to Poor Households," *World Development Journal* 36, No. 10 (2008): 1892, accessed 13 July 2017, http://www.sciencedirect.com/science/article/pii/S0305750X08001861.
[29] Ibid.
[30] "The Millennium Development Goals Report," *United Nations* (2015): 3, accessed 16 August 2017, http://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf.
[31] Ibid., 7.
[32] Ibid., 58.
[33] Ibid.
[34] Ibid., 59.
[35] Ibid.

the rural population has access to the same service.[36] Eastern and Southeastern Asia show a similar trend with 80% of the urban population having access to piped water while only 24% of the rural population has access.[37] The peripheral location of rural populations, compounded by the lack of appropriate infrastructure to connect urban with rural areas, are contributing factors to the local governments' disregard of rural areas.[38] The numbers that show the overall improvement of the region on water and sanitation must not overshadow these disparities.

Water and sanitation is a basic need for every human being. The lack or precariousness of this service is detrimental to human health and the basic living standards. Besides its effects on human life, it has also great impact on the economy of a country. A study by the World Health Organization (WHO) states that the losses from inadequate access to water and sanitation of households is USD 260 billion per year, more than double the amount of damage from floods (USD 120 billion per year) and droughts (USD 94 billion per year).[39] Hence, water and sanitation show a strong correlation to the gross-domestic product (GDP) of a country. The overall trend of the region (see Appendix A.1) shows that the higher the household water security of a country is, the higher its GDP per capita will be.[40] These two factors are inherently connected, as higher water security will contribute to more progress as well. For example, the highest scoring countries on the metric of household water security are countries such as New Zealand or Australia, both with very high GDP per capita.[41]

Recognizing the importance of household water security, the UN has initiated different programs to ensure that developing countries invest in this issue. One of the major initiatives that the UN began is the water, sanitation, and hygiene (WASH) program which focuses on fostering investment and collaboration between different parts of society to address the dangers to household water security.[42] For instance, in Laos, the UN brought the government together with different ministries, local governments, NGOs, and more than eighteen private donors to establish a path towards achieving an adequate water and sanitation supply.[43] It is through WASH that the UN expects to work together with governments and local partners to promote the universal access to water, sanitation, and hygiene, three components inherent to household water security.[44]

Urban Water Security

Whereas household water security focuses on the degree of availability and accessibility of water of individual people, urban water security focuses on the accessibility and delivery of services in

[36] "Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baseline," *World Health Organization and the United Nations Children's Fund* (2017): 20, accessed 14 July 2017, https://www.unicef.org/publications/files/Progress_on_Drinking_Water_Sanitation_and_Hygiene_2017.pdf.
[37] Ibid.
[38] Bakker and Kooy, "Governance Failure: Rethinking the Institutional Dimensions of Urban Water Supply to Poor Households."
[39] Ibid.
[40] Ibid.
[41] Ibid.
[42] "WASH Strategy," *UNICEF*, last modified 6 December 2016, https://www.unicef.org/wash/3942_91538.html.
[43] Chandler Badloe, "Innovative WASH Initiatives in Asia-Pacific," *UNICEF East Asia & Pacific*, last modified 8 May 2015, https://blogs.unicef.org/east-asia-pacific/promising-wash-initiatives-in-asia-pac/.
[44] Ibid.

relation to water within a city or urban area.[45] Asia and the Pacific is one of the most rapidly urbanizing regions of the world, with urban populations growing at a rate of 1.5% annually.[46] Currently, seven of the world's mega-cities, or cities with populations exceeding ten million inhabitants, are located in the Asia-Pacific region, and it's expected that by 2025, there will be 21 megacities in the region alone.[47] With three out of four Asia-Pacific countries already experiencing water scarcity, urban centers in the region will most definitely face water insecurity as a result of climate change and the various impacts of urbanization.

One major threat to urban water security is climate change, especially in the Asia-Pacific region. One of the most recent sings of the effect of climate change is disproportionate effect that natural disasters have on the region. For example, between 2001 and 2010, 90% of those affected by natural disasters worldwide lived in the Asia-Pacific region.[48] A greater frequency of floods and droughts can affect water security in the region; floods affect the availability of quality water through the contamination of surface and groundwater supplies, whereas droughts affect the availability of water and the demand for potable water.[49] For floods, though it may seem like there is an increase in available water, the key factor is if the water is potable. For cities, where the demand for water is high and the resources low, natural disasters like these could be detrimental. The projected increase in population will heavily affect water security as it leads to an increased consumption of water.[50] This often means over-exploitation of water resources, which then leads to excessive withdrawals and consequential water scarcity.

In another detrimental implication on water security, urbanization degrades the water quality through direct pollution, such as industrial and domestic wastewater, and indirect pollution, such as organic or inorganic pathogens.[51] Human and industrial waste degrades water, and, with higher waste generation in cities, the water degradation will be higher as well. A third impact of urbanization to water is the degradation of ecosystems. The overexploitation of ground and surface water services degrades ecosystems, such as rivers, lakes, or seas, and also limits the capabilities of purifying water.[52] The rapid urbanization process the region is undergoing means that impacts like these will most certainly be felt if not properly addressed.

On a sub-regional level, urban water security shows a similar trend to household water security. Industrial countries with advanced economies, such as Australia, Hong Kong, and New Zealand, show high levels of urban water management while other countries, such as Myanmar, Pakistan, Viet Nam, and Philippines, show extremely low capacities for managing urban water resources.[53] Even though most cities in Asia and the Pacific have extensive infrastructure for urban water treatment

[45] Ibid.
[46] Ibid.
[47] Robert Brears, "Urban Water Security in Asia and the Pacific: Promoting Demand Management Strategies," *NFG Policy Papers Series*, No. 4 (2014): 5, accessed 6 July 2017, http://edocs.fu-berlin.de/docs/servlets/MCRFileNodeServlet/FUDOCS_derivate_000000004255/pp414-urban-water-security-asiapacific.pdf.
[48] Ibid., 6.
[49] Ibid., 7.
[50] Ibid.
[51] Ibid.
[52] Ibid.
[53] "Asian Water Development Outlook 2016," 45.

and supply, piped water systems often stop short of individual households.[54] Another major issue with the lack of a centralized plumbing system is that oftentimes, wastewater becomes a public health issue. In several areas, wastewater is discharged to the environment with little to no treatment. Countries in Southeast Asia, such as the Philippines or Indonesia, only treat 4% and 1% of their wastewater, respectively.[55] The accessibility of water within cities is directly linked to the management of it. One important issue in the management of urban water is non-revenue water, or water that is not metered or billed.[56] Non-revenue water is generally considered lost water, as the leading outlets of non-revenue water are leakage, theft, and failed meters. In countries such as India, Bangladesh, and Sri Lanka, the percentage of non-revenue water is close to 50% of the overall water circulation.[57] Just as in household water security, there is a strong correlation between urban water security and GDP per capita. Countries with higher levels of urban water security tend to have a higher GDP per capita. The European Union's (EU) approach to propose that the Asian region strengthen efforts taken to rectify the issue is one development in urban water security management. As part of this initiative, the EU can transfer best practices and lessons learned based on European cities and demand management instruments.[58] These instruments implement different policy options to achieve urban water security in the following areas: pricing water, allocating water-related funding more efficiently, fostering water-efficient technologies and practices, and promoting a water-saving culture to achieve urban water security.[59] For instance, the German Federal Ministry has commissioned The Urban Nexus Project with ten cities in People's Republic of China, Indonesia, Philippines, Thailand, and Viet Nam.[60] The project is based on economic and technical aid on behalf of the German government to these cities. This initiative is a prime example of UNESCAP's goals to facilitate information sharing and bettering existing processes and conditions. Delegates should note collaborative efforts like these in regard to solution propositions.

One concrete example of Euro-Asian joint work is the Berlin-Kathmandu program. Berlin's water utility institution, Berlin Wasserbetriebe, has a management contract with its counterpart in Kathmandu, Kathmandu Upatyaka Khanepaini Limited, aimed at the enhancement of Kathmandu's water managers using Berlin's water management as a model.[61] Furthermore, initiatives such as the European Commission Joint Research Centre or the EU Water Initiative help assess water quality, predict climate change and its impact on water resources, assess future water needs, study water governance in developing countries, map water resources, and carry out analysis on new technologies that can be implemented for increased water efficiency and reuse.[62]

Economic Water Security

As mentioned before, water is inextricably bound to economic growth. Economic water security, however, does not directly measure the link between water and economic growth, but instead

[54] Ibid.
[55] Ibid., 46.
[56] Brears, "Urban Water Security in Asia and the Pacific: Promoting Demand Management Strategies."
[57] "Asian Water Development Outlook 2016," 47.
[58] Ibid., 47.
[59] Ibid.
[60] "Integrated Resource Management in Asian Cities: The Urban Nexus," *United Nations ESCAP*, accessed 5 September 2017, http://www.unescap.org/urban-nexus.
[61] Ibid.
[62] Ibid.

measures the "adequate quality and quantity of water to sustainably satisfy a country's economic requirements."[63] A country's economic requirements may vary considerably, but they will mainly rest on the agriculture, energy, and industry sectors. The degree to which a country manages to successfully assure economic water security is measured by the quantity of available resources relative to the present and growing demand from major economic sectors.[64]

Agriculture is a main pillar of the Asian economy. For several developing countries, agriculture is their main source of wealth and growth. For instance, more than 2.2 billion people rely on agriculture for their livelihoods in Asia alone.[65] With a rising population, it is expected that the food and crop demand will nearly double in the span of 50 years.[66] In order for the water resources that supply these crops to fit the needs of the market, resources will have to adhere to a similar trend. A study made by the ADB concludes that the strongest agriculture performers in the region are Southeast Asian countries, such as Thailand or Viet Nam, while the weakest performers are Pacific island countries.[67] Countries like Thailand or Viet Nam have put agriculture in their developmental forefront, investing heavily on research, technology, and on-the-farm learning in order to develop their own new techniques that have increased their agricultural efficiency.[68]

One of the keys to better agricultural performance in the region is water efficiency. Agricultural irrigation is open-sourced, which means it doesn't flow within a closed system that collects the water after it has been used.[69] As a result, water gets lost in the irrigation process. By realizing the extent of water inefficiency, the ADB implemented a Water Financing Program to assist Asian countries in providing more efficient irrigation and drainage services.[70] Its aim is to provide economic aid to farmers through local governments and has financed more than 200 irrigation projects, with investments totaling USD 6.6 billion, and about USD 1.1 billion irrigation pipeline investments.[71]

Besides ensuring adequate water for agriculture, water must be sufficient for ensuring the proper generation of energy, a key component to any economy. All sources of energy, including electricity, require water in their production processes.[72] Furthermore, energy is the most important ingredient required to supply safe drinking water, restore water of sufficient quality to ecosystems, and irrigate crops in the fields. Achieving economic water security thus requires a close connection between energy and water.

[63] Ibid.
[64] Ibid.
[65] "Asian Agriculture: 12 Things to Know," *Asian Development Bank*, last modified 9 May 2012, https://www.adb.org/features/12-things-know-2012-asian-agriculture.
[66] Ibid.
[67] "Asia-Pacific Sustainable Development Goals Outlook."
[68] "Thailand's Best Practices and Lessons Learned in Development," *United Nations Development Programme* 1, (2015): 3, accessed 7 September 2017, http://www.th.undp.org/content/dam/thailand/docs/TICAUNDPbpVol1.pdf.
[69] "Irrigation Efficiency Key to Meeting Asia's Growing Food Demands," *Asian Development Bank*, last modified 20 January 2016, https://www.adb.org/news/features/irrigation-efficiency-key-meeting-asia-s-growing-food-demands.
[70] Ibid.
[71] "Irrigation," *ADB*, accessed 6 September 2017, https://www.adb.org/sectors/water/financing-program/irrigation.
[72] Ibid.

A third key aspect of economic water security is the sufficient supply of water to the industry. One thing that makes the region's economy so unique is the highly diversified sectors of the economy, all of which require access to water and irrigation to function. Countries such as Australia, Bangladesh, Bhutan, Singapore, the Maldives, and Thailand show particularly high levels of industrial water supply.[73] The overall high levels of industrial water supply are explained differently from region to region. Water supply levels are measured according to efficiency of usage. Industrial water supply sees less water loss in comparison to agriculture. Industrial water supply flows within closed circuits, whereas agricultural water supply, mainly flowing through open-air irrigation, is much more subject to water loss.[74] This translates into a higher water supply rating for the region.

Crucial for the economic growth of a country is efficiency among water, energy, and food. As economies develop and populations grow, increased demand will be placed on water for food and energy. Primary energy production is expected to double in Asia by 2050 and power generation will more than triple.[75] Higher demands for energy means consequential higher demands for water. It is estimated that there will be a 65% increase in industrial water use, 30% increase in domestic use, and 5% increase in agricultural use by 2030.[76] A recurring problem in the interplay of these three components is inefficiency. A recent study on the link of energy and irrigation for agricultural use in the Punjab region (Pakistan) provides a great example of the interplay of these three components. While total crop production in the province was increased by 31% over the past eighteen years, direct energy intensity for agriculture has increased by 80%.[77] Direct energy use is driven by groundwater pumping. The numerical inconsistency is due to an inefficient use of energy to supply irrigation.

Food and Water Security

As mentioned, water is a key driver of agricultural production. As such, water scarcity or poor water management has an immediate and huge impact on food security. For instance, only 19% of agricultural land cultivated through irrigation supplies 40% of the world's food.[78] However, continued demand for water by non-agricultural uses, such as urban and industrial, and greater concerns for environmental quality have put water demand for irrigation under greater scrutiny. In turn, this scrutiny has given way to a threatened food supply. Continued increase in demand for irrigation water over the last many years has also led to deteriorated water quality. This is the result of the water becoming contaminated during extraction for industrial and agricultural purposes.[79] Poor water extraction practices threaten the future of water security as depletion and contamination grow at exponential levels. Consequently, addressing these environmental concerns and fulfilling urban and industrial water demand will require diverting water away from agriculture irrigation. This will reduce irrigated areas and have a direct negative impact on agricultural production and food

[73] Ibid.
[74] "Asian Water Development Outlook 2013," *Asian Development Bank* (2013): 35, accessed 24 August, https://www.adb.org/sites/default/files/publication/30190/asian-water-development-outlook-2013.pdf.
[75] Ibid.
[76] Ibid.
[77] "Asia-Pacific Sustainable Development Goals Outlook," 57.
[78] Munir A. Hanjraa and M. Ejaz Qureshi, "Global water crisis and future food security in an era of climate change," *Food Policy* 35, No. 5 (2010): 365, accessed 17 July 2017, http://www.sciencedirect.com/science/article/pii/S030691921000059X.
[79] Ibid.

security. The severity of the water crisis has prompted the UN to conclude that it is water scarcity, not the lack of fertile land, that will be the major obstacle to food production in the next few decades.[80] For instance, Australia, a major food producing country, reduced its agricultural and food production substantially due to drought, but not a lack of fertile land.[81] The Murray-Darling Basin, a region in Australia, reduced its rice and cereal production by a massive 40%.[82] The issue at hand is to bridge the water gap and feed the population. If not bridged, the water gap will result in a food gap and affect global food security.

One further risk to the proper supply of water and food production is climate change. Climate change can affect agriculture and food security by altering the spatial and temporal distribution of rainfall, the availability of water, land, capital, and terrestrial resources. The effects of climate change will be felt the most in developing countries, with little ability to adapt its water infrastructure to the changing climate. In the Asia-Pacific region, there are many countries that fall into this category. For instance, a recent study by the International Water Management Institute anticipates a 50% decline in South Asian wheat production by 2050.[83] It also anticipates food shortages in the Pacific Islands, that will lead to further poverty and social conflicts.[84] Thus, with impending climate volatility, the water industry in the region must be ready to adapt by increasing water reservoirs and land and water productivity, installing early warning systems, and drought and flood insurances.[85]

The adaptation costs that the installment of these methods entail pose a problem for developing countries. As of now, most developing countries use groundwater as its main source of irrigation. Groundwater, however, is extremely susceptible to climate change shifts.[86] Uncertainties as to how the climate will change and how irrigation systems will have to adapt to these changes pose complex issues that water policy and institutions must address.[87] Re-engaging in agriculture through renewed investments in technology, water infrastructure and management, policies, and institutions will be the main pathways to addressing the complex future food security challenges.

The link between food and water security encompasses two of the eight MDGs set by the UN, with the goal of being achieved by 2015. First, it references MDG 1: "Eradicate extreme poverty and hunger."[88] A correct use of water management that secures crop and agricultural irrigation can consequentially secure food accessibility, in order to help eradicate hunger. As discussed previously, these factors are inextricably and surprisingly linked to factors, such as GDP, that are integral to a country's overall progress. Second, it encompasses MDG 7: Ensure environmental sustainability. Within this broader goal falls the target of addressing water and sanitation. By addressing the water security gap within the Asia-Pacific region, especially in regards of household and urban water

[80] Ibid., 366.
[81] Ibid.
[82] Ibid.
[83] Ibid., 368.
[84] Ibid.
[85] Ibid.
[86] Richard G. Taylor et al., "Groundwater and climate change," *Nature Climate Change* 3, (2013): 322, accessed 18 July 2017, http://www.nature.com/nclimate/journal/v3/n4/full/nclimate1744.html.
[87] Ibid.
[88] "Goal 1: Eradicate Extreme Poverty and Hunger," *United Nations,* accessed 17 August 2017, http://www.un.org/millenniumgoals/environ.shtml.

security, the target of "halving the proportion of the population without basic access to water and basic sanitation."[89] It is important to remember that both rural and urban areas are plagued by this issue. Water security and its link with food security has the potential to address or help to achieve two of the UN's MDGs and should be an issue seriously considered by the different countries within the Asia-Pacific region.

Water and Conflict

A significant reduction of water has direct detrimental impacts on the lives of human beings. As an imminent threat to human life, it in turn becomes a concern of international security.[90] Water has been the source of several conflicts in the past, and looking to the future, population growth is fast out-growing the supply of water. It is not unreasonable to conceive water as a possible source of greater conflict in the future. The degree to which a country is prone to conflict due to lack of water resources depends on different factors. Where water resource management is resilient to climate change or population growth, there is little to no concern. However, in an arid or semi-arid country with a high population growth rate, the threat of resource depletion or degradation is constant and competition among an increasing number of potential users is almost unavoidable. Without sufficient access to water resources, populations simply cannot survive, and states, bound as they are to protect their populations and develop the economy, cannot pursue the variety of tasks that they are expected to fulfill.

The same is true when the water source is transboundary, and the quantity, quality, or timing of its flow is uncertain. Transboundary water sources are, for example, international river basins, lakes bordered on two sides by two different countries, or large bodies of water like oceans that are considered international bodies of water. Understandably, two countries sharing the same water source can bring about several conflicts. For rivers, the conflict lays on the upstream/downstream location of countries.[91] Geographic position is important because the upstream location is in the most favorable position. Being at the source of the river it can, in theory, exploit the water as it wishes. There is the possibility of diminished quantity and quality of water available to states downstream. States downstream must suffer the consequences unless there is an international agreement that governs water rights in the basin. Political relations also make a difference. A hostile diplomatic relation with the absence of international treaties can be considered as a much bigger national security concern. This shows the intersection of environment, policy, development, and resource management, all of which fall under UNESCAP's jurisdiction. Delegates should consider all the areas of focus under UNESCAP when formulating solutions for this topic.

The Asia-Pacific region is one with many rivers, lakes, and seas, and is not exempt from these dangers. For instance, Asia is home to three major transboundary river basins: the Brahmaputra, Ganges, and Mekong rivers.[92] The majority of the transboundary water sources in the region are already under some kind of treaty or joint agreement. Nonetheless, several water sources are still to

[89] "Goal 7: Ensure Environmental Sustainability," *United Nations,* accessed 17 August 2017, http://www.un.org/millenniumgoals/environ.shtml.
[90] Miriam R. Lowi, "Water and Conflict in the Middle East and South Asia: Are Environmental Issues and Security Issues Linked?" *Journal of Environment & Development* 8, No. 4 (1999): 376, accessed 20 July 2017, http://journals.sagepub.com/doi/pdf/10.1177/107049659900800403.
[91] Ibid., 382.
[92] Ibid.

be subjected to a joint program. For instance, India and Bangladesh share 54 common rivers in total.[93] Of the 54 rivers, only one, the Ganges, is subject to an international treaty. For the other transboundary water sources, the possibility of exacerbating conflict continues.

One example of a successful joint river basin treaty is the one of the Indus river basin. The Indus River flows mainly through Pakistan and India. In 1952, the two newly independent countries started negotiations over the management of the river's sources.[94] Due to a conflicted relationship between the two parties, third-party intermediation was needed by The World Bank. Pakistan was at the downstream location and was subject to India's management, India only had access to 5% of the basin and thus had less water to satisfy its needs.[95] In the Indus case, the principles of negotiation, as adopted by The World Bank, kept the focus on creating a long-range plan that would result in mutual gains for the two countries. The benefits were exclusively based on practical needs as opposed to political considerations and did not consider past claims and negotiations.[96] The role of the World Bank was key for the peaceful process of the negotiations. The Bank offered assistance to Pakistan in building a water storage facility on the Indus basin rather than relying exclusively on the water flow from the Indus controlled by India.[97] The Bank further promised financial assistance to build two dams in Pakistan, one in India, and link canals in both countries.[98] After years of negotiations, clear specification of the costs and benefits, allocation of costs to both countries, and the willingness of the World Bank to bear additional costs enabled the new agreement. The treaty was signed by both parties in 1960, and the Indus River thus rests as a benchmark example of how tensions can be overcome to secure future water resources and avoid conflict.[99]

One further pressing example of the importance of water in conflict, is the Tigris and Euphrates river case. Both rivers flow through Syria and Iraq. In the ongoing internal conflict with ISIL, the control of water resources (rivers, dams, and sewage and desalination plants) has been a crucial factor for the strategic control of a specific region.[100] In the height of the internal conflict in 2014, ISIL had control over most of the upper reaches of the Tigris and Euphrates.[101] Since the Syria-Iraq region is arid, control over water resources and the deliberate cutting off of water to inflict terror is a major concern. A concern that is not only for the two directly concerned countries, but also for the region as a whole. Naturally, the ISIL case is a very particular one and there are few parallels that can be drawn with the other countries. However, for countries in the Asia-Pacific region, this case is an example of how to avoid water scarcity and how the control of water can be used as tool for terror.

[93] Ibid.
[94] Enamul Choudhury and Shafiqul Islam, "Nature of Transboundary Water Conflicts: Issues of Complexity and the Enabling Conditions for Negotiated Cooperation," *Journal of Contemporary Water Research & Education* 155, No. 1 (2015): 47, accessed 21 July 2017, http://onlinelibrary.wiley.com/doi/10.1111/j.1936-704X.2015.03194.x/full.
[95] Ibid.
[96] Ibid., 48.
[97] Ibid.
[98] Ibid.
[99] Ibid.
[100] John Vidal, "Water supply key to outcome of conflicts in Iraq and Syria, experts warn," *The Guardian*, 2 July 2014, accessed 11 August 2017, https://www.theguardian.com/environment/2014/jul/02/water-key-conflict-iraq-syria-isis.
[101] Ibid.

CURRENT STATUS

Wastewater: The Untapped Resource

One particularly innovative way of dealing with water scarcity is the treatment of wastewater. In all but the most developed countries in the world, wastewater is directly disposed to the environment without adequate treatment.[102] A study made by the Food and Agriculture Organization (FAO) estimates that of the yearly withdrawals of freshwater worldwide, 56% of it is released to the environment in the form of municipal or industrial water disposal.[103] This is detrimental to the health of humans, economic productivity, quality of freshwater resources, and ecosystems, as can be seen in Appendix A.2. Used water is too often seen as a burden to be disposed of or as a nuisance to be ignored. Wastewater management generally receives little social and political attention in comparison to water supply challenges, especially in the context of water scarcity even though the two are intrinsically related. Furthermore, the correlation between a country's water treatment and average income level is strong. On average, high-income countries treat about 70% of the wastewater they generate, while that ratio drops to 38% in upper middle-income countries and to 28% in lower middle-income countries.[104] In low-income countries, only 8% of industrial and municipal wastewater undergoes treatment of any kind.[105] For the poor, particularly in slums, this means they are the most affected as they are directly exposed to wastewater. Wastewater contains a wide variety of pathogens and pathogenic organisms, such as viruses and bacteria, which are detrimental to human health. Therefore, direct exposure to wastewater can be of great danger to human health.

The ultimate purpose of water treatment is to separate water and other contaminants either for further use or for the safety of those in the vicinity. The wastewater management cycle can be reduced to four basic steps: the prevention of pollution at the source, the removal of contaminants from water, the use of wastewater, and the recovery of useful by-products, such as heat or nutrients.[106] This process can be used to recycle water for a source of energy in industrial sites, to irrigate crops in agricultural sites, and even for drinking water. Efficient wastewater treatment can be accomplished through different systems and technologies; however, the most common is through wastewater treatment plants for the purpose converting water from toxic to reusable. Wastewater is roughly composed of 99% water and 1% suspended, colloidal, and dissolved solids.[107] However, just that 1% makes the water extremely toxic and unusable. These treatment plants ensure the removal of this 1% of contaminants, so that water can be reincorporated into the water cycle.

The installment of wastewater treatment plants is expensive, and this initial investment of capital is a deterrent for many countries. Moreover, it requires the awareness that wastewater is an issue on which money and time are worth spending. Despite the costly installment of treatment plants, evidence shows that it actually is economically beneficial both in the long and short term. The economic feasibility of wastewater treatment lies in the detrimental effects of contaminated water

[102] "Wastewater: The Untapped Resource," *The United Nations World Water Development Report 2017,* (2017): 19, accessed 25 May 2017, http://www.unescap.org/sites/default/files/publications/wwdr2017-full.pdf.
[103] Ibid., 9.
[104] Ibid., 2.
[105] Ibid.
[106] Ibid., 3.
[107] Ibid., 38.

(see Appendix A.2). For example, the Pacific islands are almost entirely dependent on the health of their reefs for tourism, fisheries, and shoreline protection, but these reefs are threatened by the discharge of untreated wastewater.[108] Papua New Guinea and the Solomon Islands make up part of the Coral Triangle, the global center of reef diversity with more species of fish and corals than anywhere else on the planet.[109] 50% of their population live in coastal areas, which means that the contamination of water not only affects the tourism but also directly affects their food source.[110] The discharge of wastewater results in high external costs that, again, serve as deterrents for countries. Thus, the economic argument for the improved treatment of wastewater is that it can minimize the negative effects of wastewater, while maximizing the benefits of it.[111] Therefore, when a country invests in a wastewater treatment plant, it is reducing the external costs of untreated and contaminated water.

In dealing with untreated water, UNESCAP has fostered a new pilot program that has been successful in the Asia-Pacific region, the Decentralized Wastewater Treatment System (DEWATS).[112] The DEWATS system is similar to regular wastewater treatment plant and is a more cost-efficient wastewater treatment plant whose aim is to recycle and supply a smaller amount of water to a smaller portion of the population.[113] The benefits of implementing a DEWATS system are that it manages to recycle and supply water to peripheral populations, its operation and maintenance costs are low, and it takes less time to build one.[114] A DEWATS system has been put into practice in the peri-urban areas in Indonesia.[115] In this case the small-scale of the wastewater treatment plant has enabled to delegate the responsibility to lower administrative levels, such as provincial or municipal authorities and even sometimes to the community itself. The programs were first initiated in 2015 and their progress is still being monitored with results still inconclusive at present. Nonetheless, it has remained clear in Indonesia's case that community-managed DEWATS can be effective for serving poor communities when an appropriate system is built in the right location, the number of users is optimized, and there is shared responsibility with government for operation and maintenance.[116]

Cases of Successful Water Security

The overall trend of the region regarding water security is positive. Great developments have been made in the sector, and it can be securely affirmed that the Asia-Pacific region today enjoys a higher water security than ten or twenty years ago. The considerable disparities in the region, however, are hurdles that are yet to be overcome. Nevertheless, the different success stories of countries can be used as a roadmap for the rest of the region. The following countries have shown remarkable policy implementation, but they still have progress to make in addressing water security.

[108] "Wastewater: The Untapped Resource," 41.
[109] Ibid.
[110] Ibid.
[111] Ibid., 3.
[112] "Policy Guidance Manual on Wastewater Management with a Special Emphasis on Decentralized Wastewater Treatment Systems," *UNESCAP* (2015): 22, accessed 28 August 2017, http://www.unescap.org/sites/default/files/manual_part1and2_16july15.pdf.
[113] Ibid.
[114] Ibid., 87.
[115] Ibid.
[116] Ibid.

Lao People's Democratic Republic
In 2011, Lao PDR aspired to improve its urban water security, and implemented a National Socio-Economic Development Plan.[117] A key strategy of this ongoing plan is to identify provinces and cities across the country with the highest potential for rapid growth.[118] Once identified, the cities are subject to improved planning systems and provided with sufficient and efficient infrastructure and services. In order to better secure water resources for urban citizens as well as meet objectives under the current national development plan, the local government has prepared an urban water supply and sanitation strategy.[119] Streamlining, updating, and even the first steps of implementing processes to deal with this issue is a huge step forward for many countries. There have been several countries discussed that do not have the tools to deal with these effects at a basic level. The strategy sets a target to provide 24-hour access to safe drinking water to 80% of urban population by the year 2020, and 90% by 2030.[120] The plan includes upgrading and rehabilitating existing systems, as well as the expanding services to reach higher coverage in the rapidly growing cities. Furthermore, it establishes the development of new water supply systems in 30 different district towns, the expansion of water supply systems to emerging towns, and the assurance that this water is safe from the source.[121]

People's Republic of China
China's capital, Beijing, is a mega-city with a massive population and vibrant socio-economic activities which puts high pressure on water resources. Since the 1980s, the city has started to regulate its population size and the industrial needs through an array of different local laws.[122] To reduce water demand and pollution, a series of strict policies have been implemented, to guide the industry to a more conscious use of water resources. Since 2013, prior to the approval of any industrial project, a comprehensive water impact assessment and an environment impact assessment is mandatory.[123] Besides stricter policies for the industry, water use efficiency has also been a focus. Water conservation facilities, water quotas for industrial sites, and water-saving devices have been implemented for both industry and households. Furthermore, while realizing that the usual surface and groundwater supplies were not sufficient to supply the vast population and the thriving industry, Beijing added wastewater treatment and storm water retention as further sources of water.

In addition to this multi-source water supply system, Beijing listed seawater desalination and deep groundwater utilization as strategic technology solutions. This resourceful approach helped alleviate many of Beijing's previous issues. Part of the success of Beijing's water security plan is the political input given to addressing this issue, which many other cities and countries tend to lack. In 1973, a special task force composed of top leaders from local governments and state ministries was established to solely for this city issue.[124] In 2001, a high-level coordination task force for the sustainable utilization of water resources in Beijing was established. It remains clear that Beijing's

[117] "Water and Green Growth: Case Studies from Asia and the Pacific," *UNESCAP,* (2015): 18, accessed 27 July 2017, http://www.unescap.org/sites/default/files/WWF_CaseStudies_final.pdf.
[118] Ibid.
[119] Ibid.
[120] Ibid.
[121] Ibid.
[122] "Celebrating 50 years of Water Leadership in Asia and the Pacific: Success Stories from the Field," *UNESCO* (2015): 22, accessed 7 August 2017, http://unesdoc.unesco.org/images/0023/002350/235022e.pdf.
[123] Ibid., 23.
[124] Ibid.

development was accompanied by institutional and political support which are key requirements for lasting change.

Myanmar

Myanmar is a country with complex socio-economic problems, including overall water security. As a newly erected democracy, Myanmar has set remarkable policies in place since 2011. Regarding water sources, Myanmar relies heavily on its biggest river basin, the Ayeyarwady River Basin, which covers 61% of the total country's area and sustains 26 million people.[125] Since it flows mainly within the country, it's a major agricultural and commercial waterway. However, the river basin has lost more than 60% of its original forest cover and is under heavy pressure from agriculture, which, as of 2009, utilized more than 90% of the surface water.[126] In 2011, the new government held a forum in which the Burmese decided to focus the country's future development on sustainable and green growth. The first step was to institutionalize the process, so in 2011, the Ministry of Environmental Conservation and Forestry was created, and in 2013, the National Water Resources Committee was established.[127] The National Water Resources Committee, analyzed the impacts of changing consumption patterns, climate change, population growth, and the rapid increase of economic activity; it started working with water-related government ministries and civil society organizations. Comprehensive water legislation has since been underway. These institutions were instrumental in establishing water and river effluent regulations. Although it is too early to assess the results and several problems are still to be resolved, Myanmar is an example of how successful institutionalization and political process can alleviate issues within this topic.

India

India is one of the region's countries that is struggling with water security the most. Declining per capita water availability, growing water scarcity, as well as increasing and competing water demands give reasons for Indian policy-makers to worry. To address this water scarcity, policy-makers have shifted their attention to the power sector, more specifically thermal power plants. Recently, the Government of India announced a "National Water Mission" under the National Action Plan on Climate Change with a special goal of enhancing water use efficiency by 20%.[128] 79% of new thermal and hydro power plants are planned for construction in water scarce areas, and insufficient water supplies are a risk to the power supply.[129] The Indian government, after realizing this problem, conducted a series of water audits to further investigate the water-energy nexus which resulted in the identification of opportunities for water conservation and recommendations for recycling water to improve the efficiency within power plants. The audits revealed that an effective recycling of wastewater could reduce freshwater intakes by 18% to 26%.[130] Furthermore, power plants of 3,000 megawatt (MW) capacity could potentially save 17.9 million cubic meters per year of water and approximately INR 72 million annually through the recycling of drain wastewater.[131] Although India's power plants still run on inefficient water technologies, the Indian government's actions to

[125] "Water and Green Growth," 25.
[126] Ibid.
[127] Ibid., 24.
[128] Ibid., 15.
[129] Ibid.
[130] Ibid.
[131] Ibid.

research different ways to improve the efficiency, and thus reduce water scarcity, is a clear sign of the Indian government's commitment to resolving this issue.

BLOC ANALYSIS

UNESCAP is comprised of a heterogeneous group of countries. Different geographical locations, degrees of industrialization, institutionalization processes, and degrees of water security shape the Asia-Pacific region. The congregation of these countries within a space that fosters debate and policy solutions, offers a unique opportunity for countries to work together and use their diversity as a strength to come up with the necessary solutions to this problem.

Countries with High Levels of Water Security
The disparities in success are difficult to separate into sub-regions. Countries that have implemented successful policies and thus enjoy higher water security levels cannot be traced back to one sub-region alone. Countries such as Australia, Brunei Darussalam, Hong Kong, Japan, Korea, New Zealand, and Singapore that are in different sub-regions have the highest National Water Security Index, according to the ADB (see Appendix A.3).[132]

Some Central/West Asian countries, such as Tajikistan, Kazakhstan, Armenia, or Georgia also show rather high levels of water security. For instance, Tajikistan, as a country with very rich water resources, shows a remarkable water infrastructure system. It is able to provide for the generation of hydropower for national electricity grids, irrigation for the country's agricultural sector, support healthy fisheries, enable recreational activities, and, more recently, serve as tourist attractions.[133] Of the Southeastern Asian countries, Malaysia shows by far the highest level with 73/100 points on a global scale for water security standards.[134] The People's Republic of China, which is a part of the East Asian sub-regions also shows rather high level of water security. These countries have prioritized water security for quite some time now and are enjoying the benefits of their efforts today. Through the correct implementation of successful policies, accompanied by a parallel institutionalization process, these countries can serve as examples to others in the region still struggling with water security. For instance, the implementation of UNESCO's International Hydrological Programme (IHP) was a success. It was a program devoted to water research, water resources management, and education and capacity building.[135] Through this program, countries, such as Australia, Republic of Korea, Japan, or New Zealand institutionalized the discussion of water security, giving the issue the attention it requires. For UNESCAP, the cooperation and readiness to work with the other countries on behalf of this bloc will be key to effectively finding solutions in accordance with its mandate.

Countries with Low Levels of Water Security
Countries in this bloc have struggled and still struggle to implement policies and make necessary changes to improve their water security. Countries, such as Afghanistan, Bangladesh, Cambodia, India, Pakistan, Tajikistan, and Viet Nam are included in this bloc. They have not been able to

[132] "Asian Water Development Outlook 2016," 26.
[133] "Water and Green Growth," 34.
[134] "Asian Water Development Outlook 2016," 88.
[135] "Hydrology (IHP)," *UNESCO*, accessed 17 August 2017, http://en.unesco.org/themes/water-security/hydrology.

develop policies to foster water security, and in fact, are most likely to be the one's affected in the future if no change is made. Furthermore, if no change is made and the scarcity is harshly felt by the population, water might become a further factor causing armed conflict between these countries. As has been shown in the "Success Cases," some of these countries have actually implemented policies or are undergoing a process of change to put this issue at the forefront. For instance, India recently decided to start implementing thermal power plants to ensure water management, and Myanmar has started addressing sustainable development by institutionalizing its water infrastructure.[136] Nonetheless, the overall trend is negative. Having a wide array of countries within the region that have been able to provide their population and industry with water security, these countries can learn a lot through cooperation with the first bloc. Of course, moving and developing into becoming a water-secure country means initial sacrifices. Building the infrastructure and sanitation facilities needed to supply a bigger portion of the population, replacing unsustainable water supply methods, such as groundwater irrigation and building sustainable water treatment plants comes at a cost. For countries in this bloc, it will be crucial to weigh the costs and benefits of transitioning into a system that puts water security in the forefront.

The Pacific Islands

The Pacific Islands, or the Pacific region in general, has one of the lowest sub-regional averages, with only 43/100 on the global scale.[137] These countries not only have a very particular geographic location as regards the rest of the countries with low levels, but also have different economic backbones and suffer much more from the impacts of climate change. The interests of the first two blocs might not correspond the interests of this bloc at first. The Pacific islands contribute little to nothing in greenhouse gas emissions, but are disproportionately sensitive to climate change's effects. Big industrial countries, with high emissions from blocs one and two, present a threat. High contamination contribution countries with low-levels of water security present concerns for this bloc. The Pacific islands have a great deal to improve internally if they hope to achieve some level of water security in the near future. With their low levels of water security, the islands struggle to meet the needs of their population and industry, mainly agricultural production. Working together with other Pacific islands, due to the geographic and socio-economic similarities, will be crucial to find solutions to this issue. Furthermore, policies implemented by other countries might be very helpful to address the problems in their own land.

COMMITTEE MISSION

The issue of water security falls squarely within the mandate of the UNESCAP. Water security has enormous effects on economic growth, social development and climate change.

UNESCAP, as a commission that offers space to its member states to debate, cooperate, and find solutions together, is a great platform to build the road to a more water-secure Asia-Pacific region. One of the commission's main goals is providing a platform for peer information sharing and learning. This is illustrated through UNESCAP's efforts to encourage dialogue between countries of varying levels of involvement and success in the water security sector. Furthermore, one of the main objectives of the commission is to achieve the UN's 2030 Agenda for Sustainable Development. In

[136] "Water and Green Growth: Case Studies from Asia and the Pacific," 23.
[137] "Asian Water Development Outlook 2016," 88.

this Agenda, water security plays a crucial role. The achievement of water security can have innumerable positive effects on the other goals that are a part of the Agenda. This is especially important for delegates of the commission to note: water security as an issue has effects that reach far outside the realm of environment and resources. As mentioned several times throughout this report, development and improvement of resources is closely linked to countries with both higher GDPs as well as better quality of life. It is essential that this topic is given enough gravity as it can either propel or hinder the progress of a country and its residents overall.

Finally, UNESCAP's goal to promote "rigorous analysis and peer learning, that translates these findings into policy dialogues and recommendations" will be crucial to help the disproportionately affected Pacific Island region.[138] The dynamics this guide strive to promote are in accordance with UNESCAP's aim to use collaboration and debate to better address the most pressing needs of the region. It is recommended that the countries of the Committee formulate comprehensive solutions and engage in productive dialogue that helps the most and least secure among them.

[138] "About ESCAP."

TOPIC B: ADDRESSING THE DIGITAL DIVIDE IN ASIA AND THE PACIFIC

INTRODUCTION

The unhindered access to information is a crucial right for people that is not fully being upheld in the Asia-Pacific region. Fixed broadband subscriptions per 100 people refers to the number of people out of every 100 that have access to public internet.[139] As of 2014, there were only 8.7 fixed broadband subscriptions per 100 people, far below the global average of 11.602.[140] Asia and the Pacific is the most digitally divided region in the world, with less than 8% of the population connected to affordable and reliable high-speed internet.[141]

While it may seem as though broadband connectivity is rising in the region, this is only true for high-income countries such the Republic of Korea and the People's Republic of China (PRC). In fact, the broadband growth observed in the region has been primarily driven by the growth in the PRC, with over 50% of the broadband subscriptions registered.[142] This divide is especially apparent when one examines two other countries in particular, Republic of Korea and Timor-Leste. While 99.6% of the young people in the Republic of Korea have been active on the internet for at least five years, less than 1% of Timor-Leste's youth have had access.[143] The economic and social instability of the region can partially be attributed to this drastic discrepancy in internet access among Asian-Pacific countries. Essentially, with the PRC and the Republic of Korea out of the picture, there is minimal improvement over the last decade in broadband connectivity to show for in the Asia-Pacific as there are around twenty ESCAP countries with less than 2% of their respective populations having adopted fixed broadband.[144]

According to the International Telecommunications Union (ITU), over 50% of the global fixed broadband subscribers come from member countries of United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) as of 2015, a huge increase from the mere 38% in 2005.[145] However, this is figure is relatively misleading, considering how population levels and dynamics differ between Asia-Pacific and other regions. Despite having the greatest percentage of fixed broadband subscribers, the Asia-Pacific is behind even the Latin American and Caribbean region when it comes to average fixed broadband subscriptions per 100 inhabitants.[146] Clearly the

[139] "Statistical Yearbook for Asia and the Pacific 2015," *United Nations ESCAP* (2015): 16, accessed 24 May 2017, https://www.unescap.org/sites/default/files/Did_you_know_SYB2015.pdf.
[140] "Fixed Broadband Subscriptions per 100 people," *World Bank*, accessed 12 August 2017, http://data.worldbank.org/indicator/IT.NET.BBND.P2?end=2015&start=1998&view=chart.
[141] "Asia-Pacific Information Superhighway," *UNESCAP*, accessed 17 August 2017, http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/about.
[142] "State of ICT in Asia and the Pacific 2016," *UNESCAP*, last modified 17 August 2016, http://www.unescap.org/resources/state-ict-asia-and-pacific-2016-uncovering-widening-broadband-divide.
[143] Ibid.
[144] Ibid.
[145] Ibid.
[146] Ibid.

rate at which broadband is being adopted in the Asia-Pacific region is not enough to keep up with the current trend, even with regards to mobile broadband. Similar to the previous statistics about fixed broadband, the number of mobile broadband subscriptions in Asia-Pacific make up a significant portion of the global number, but the per 100 people ratio is still far below that of North America.[147]

Generic statistics about the region may not register this as a significant issue, as a select few countries such as PRC and the Republic of Korea skew the statistics. By increasing awareness of the issue and identifying gaps in internet access, the region can develop. This will require a close analysis of countries that tend to get swept along with the skewed numbers that more digitally equipped countries add to the data pool. As a result, lack of awareness may actually be one of the biggest barriers in the development of the more smaller countries overshadowed by developed states in the region.

The Executive Secretary of UNESCAP, Dr. Shamshad Akhtar, believes that broadband connectivity is critical to the development of a digital economy and achieving the Sustainable Development Goals (SDGs).[148] Improving broadband connection in the Asia-Pacific region can potentially offer millions of people access to information and opportunities in education, health, business, and financial services.[149] Fixed broadband connectivity is at the cornerstone of many aspects of the economy and society. Not only will better access to internet facilitate trade, but also it will enable many to access necessary educational resources. However, like all amenities, there are discrepancies when it comes to equal access, which is more evidently seen when adding in factors, such as gender inequality.

Recent efforts by UNESCAP have made relatively great strides in resolving this issue; however, improvement is only being seen in the affluent countries that are able to properly utilize Information and Communication Technology (ICT) to develop their economy. This ends up becoming a case of those with means improving further, and those without continuing to struggle; it further contributes to the previously mentioned data skew that glosses over less affluent countries. The gap between these countries, who are essentially potential trade partners that have not been able to achieve their maximum potential, continues to widen at an alarming rate. It is apparent that such countries do not have the necessary infrastructure to keep up with the speed at which ICT is permeating every facet of life.[150] Countries must work together to bridge this digital/broadband gap, and they must meet the diverse and evolving needs for ICT in the various socioeconomic sectors of the region. Broadband internet is the foremost tool for people-to-people connectivity in the region and is accelerating inclusiveness by bringing transformative opportunities in health care, education, and finance to even the most disadvantaged people.[151] Ensuring increased penetration of broadband internet will present opportunities to equalize people and offer upward social mobility.

147 Ibid.
148 "New UNESCAP report highlights alarming disparity in broadband access among Asia-Pacific countries and broadband concentration in East-Asia," *UNESCAP*, last modified 19 August 2016, http://www.unescap.org/news/new-un-escap-report-highlights-alarming-disparity-broadband-access-among-asia-pacific-countries.
149 Ibid.
150 "Asia-Pacific Information Superhighway."
151 Ibid.

HISTORY AND DESCRIPTION OF THE ISSUE

Internet Access: A Basic Human Right

Due to the very nature of the internet and how it has been utilized in recent decades, internet access is inexorably linked to many of the other fundamental rights bestowed upon individuals no matter their geographical location. Many countries, especially in the Asia-Pacific region, have taken measures to restrict internet access. Subsequently, many people, especially in developing countries, still do not have access to internet. As such, the United Nations (UN) "declared that "online freedom" is a "human right," and one that must be protected.[152]

Taking into consideration previous resolutions on the promotion, protection, and enjoyment of human rights on the internet, freedom of opinion and expression, and the right to privacy in the digital age, the UN Human Rights Council (UNHRC) "affirms that the same rights that people have offline must also be protected online."[153] UNHRC further recognized the "internet as a driving force in accelerating progress towards…achieving the Sustainable Development Goals."[154] As the right to internet access or right to broadband is inseparable from freedom of expression and access to information, this declaration is not unsurprising. The internet is a medium through which people can convey their opinions via social media, for instance, and acts as a platform for the exchange of ideas and assembly of people around the world. It is also a source of knowledge from which anyone with broadband connectivity can draw from. This is especially advantageous to those with limited or no access to schooling and higher education.

Designating internet access as an inalienable right increases opportunity and even improves education. The UN taking this step also ensures governments cannot easily place restrictions on internet access or completely shut it down.[155] For example, a "Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression" published by the Human Rights Council explores many of the ways in which internet access is being restricted by governments. Specifically, "without any legal basis, or on the basis of broad and ambiguous laws, without justifying the purpose of such actions."[156] It continues on to emphasize the role of internet as an enabler of many social and cultural rights, such as the right to take part in cultural life or the right to assembly. It highlights that any technical measures taken by a state to prevent access to certain content on the internet, like filtering, completely blocking, or inhibiting the dissemination of information online is a violation of international law. Since internet access is such a crucial necessity, it is important to ensure countries take steps to increase broadband connectivity in their regions and promote digital literacy rather than restrict internet access. In Philippines, a program called The Web Rangers works to promote digital literacy by holding workshops where teens can come together and

[152] Tim Sandle, "UN thinks Internet access is a human right," *Business Insider*, last modified 22 July 2016, http://www.businessinsider.com/un-says-internet-access-is-a-human-right-2016-7?IR=T.
[153] A/HRC/32/L.20, "The promotion, protection and enjoyment of human rights on the Internet," 27 June 2016, accessed 13 August 2017, https://www.article19.org/data/files/Internet_Statement_Adopted.pdf.
[154] Ibid.
[155] Adam Wagner, "Is Internet access a human right?" *The Guardian*, 11 January 2012, accessed 13 August 2017, https://www.theguardian.com/law/2012/jan/11/is-internet-access-a-human-right.
[156] A/HRC/17/27, "Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression, Frank La Rue," 16 May 2011, accessed on 13 August 2017, http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf.

learn about extracting useful information online without getting distracted and also by hosting a website where people can connect and share useful information about education, health, and technology.[157] The UN has done its part, legally, to remedy the situation by holding a workshop dedicated to enhancing the understanding of judicial officials on freedom of expression and how it is impacted by restricting internet access.[158]

However, the counterargument that supports some level of restriction involves the misuse of the internet. This is especially the case with a country's ability to restrict the access of those who may misuse the internet without directly opposing the declaration set forth by the UN. When France and the United Kingdom (UK) took action against copyright infringers, the UN released a report on the Promotion and Protection of the Right to Freedom of Opinion and Expression in order to take a stance against such actions.[159] The report further warns against the blocking of internet access by governments in attempt to quell political unrest.[160] This demonstrates the fine line between restriction for legal purposes related to intellectual property and those that may claim this censorship goes against newly accepted principles of free use. The misuse of the internet also poses cyber threats.

Cybercrime and cyberattacks are on the rise, especially in the Asia-Pacific region due to the large potential victim pool, low awareness regarding cybersecurity, and the use of outdated technology.[161] Another argument for restricting internet access is that it is a simple way for countries with limited infrastructure and cybersecurity to not only prevent misuse but also avoid being the target of cybercrime. In 2016 alone, there are 56 documented cases of governments shutting down internet, including many Asia-Pacific countries.[162] The government of Thailand adopted a new Cyber Crime Act in 2016 to tighten its control over the internet by broadly and rather ambiguously defining various cybercrimes.[163] In doing so, the government of Thailand gave itself the power to take in people using the internet to defy or campaign against them in the name of the law. Pakistan, India, and Turkey are other such countries that have taken similar measures.[164] As such, there needs to be a balance in the way countries approach the right to internet access as an inalienable right.

Alternatively, there are many international organizations and NGOs that work to make sure internet access is upheld as a human right (see Appendix B.1). The #KeepItOn movement believes that

[157] "Google Philippines touts teen campaign promoting digital literacy," *Marketing,* last modified 14 October 2016, http://www.marketing-interactive.com/google-philippines-touts-teen-campaign-promoting-digital-literacy/.
[158] "Judiciary are key to protecting freedom of expression online, concludes UNESCO panel," *UNESCO*, last modified 13 December 2016, http://en.unesco.org/news/judiciary-are-key-protecting-freedom-expression-online-concludes-unesco-panel.
[159] David Kravets, "U.N. Report Declares Internet Access Human Right," *Wired*, last modified 3 June 2011, accessed 10 August 2017, https://www.wired.com/2011/06/internet-a-human-right/.
[160] Catherine Howell and Darrell West, "The Internet is a human right," *Techtank - Brookings*, last modified 7 November 2016, https://www.brookings.edu/blog/techtank/2016/11/07/the-internet-as-a-human-right/.
[161] Saheli Choudhury, "Four reasons why Asia is a prime target for cybercriminals," *CNBC*, 18 October 2016, accessed 10 August 2017, https://www.cnbc.com/2016/10/18/asia-a-target-for-hackers-due-to-large-victim-pool-low-awareness-lack-of-disclosure-norms-and-use-of-unlicensed-technology.html.
[162] "#KeepItOn," *AccessNow*, accessed 4 September 2017, https://www.accessnow.org/keepiton/#problem.
[163] "Thailand: Cyber Crime Act Tightens Internet Control," *Human Rights Watch*, last modified 21 December 2016, https://www.hrw.org/news/2016/12/21/thailand-cyber-crime-act-tightens-internet-control.
[164] "#KeepItOn."

"Internet shutdowns pose a threat to human rights around the world" and strives to bring an end to them through online campaigns.[165] The organization A Human Right seeks to build a "world that operates in the best interest of the people" through a project-based approach that makes their vision a reality one step at a time on a case by case basis.[166] Using such organizations as inspiration, delegates will have to work together to find that balance and ensure that those people who will use the internet to better themselves and those around them will have access to broadband. A significant hurdle to achieving this is the lack of sufficient and resilient infrastructure.

Lack of Sufficient and Resilient Infrastructure

One specific reason as to why improvement in broadband connection cannot be made in low-income countries is the lack of proper infrastructure to support it. According to an in-depth study on the broadband infrastructure in South and West Asia conducted by UNESCAP itself, the "root cause of the region's bandwidth inequality is weak terrestrial fibre optic connectivity."[167] Since there are no "coherent, purpose-built, cost-effective, high capacity regional terrestrial fiber optic networks," less developed countries in the Asia-Pacific will be unable to adopt broadband capability to support growing demand.[168] Essentially, even if the people of the Asia-Pacific gain awareness of the many utilities of internet, these countries may not have the ability to take on more fixed broadband connections. Landlocked countries in particular suffer a great deal from this insufficient infrastructure. This is because the infrastructure needed for internet connectivity in such countries are costlier than the submarine cables utilized by coastal states: additional costs are incurred as these landlocked countries have to go through third party countries to access those cables.[169] This in turn increases the cost of broadband and thus decreases broadband penetration rates in landlocked countries.

Normally, the biggest barrier in adopting a pan-regional terrestrial fiber optic network would be cost. Fiber optic materials may be exorbitant, but the cost of infrastructure is slim compared to the labor costs of "excavation, the costs of securing rights of way, and implicit costs of disruptions and delays in the areas under construction."[170] Because these "costs together represent an average of between 50-80% of all spending on optical fiber deployment," local countries may find it impractical to upgrade to a better fiber optic network.[171] However, by utilizing the linear infrastructure already present, countries of the Asia-Pacific can cost-effectively establish a trans-border network to bring them up to par with Western competition. Instead of setting aside disparate resources for the formation of an information highway, it would be more prudent to incorporate fiber-optic into land transport construction. With over "143,000 kilometers of the Asian Highway and another 117,000

[165] Ibid.
[166] "Projects," *A Human Right*, accessed 4 September 2017, http://ahumanright.org/projects.php.
[167] Michael Ruddy and Esra Ozdemir, "An in-depth study on the broadband infrastructure in South and West Asia," *UNESCAP* (2014): 10, accessed 13 August 2017, http://www.unescap.org/sites/default/files/Broadband_Infrastructure_South%26West_Asia.pdf.
[168] Ibid.
[169] Nigel Gambanga, "Here are the 5 reasons why Internet is so expensive in Zimbabwe," *TechZim*, last modified 16 January 2017, http://www.techzim.co.zw/2017/01/5-reasons-internet-expensive-zimbabwe/.
[170] "The Next Leap for Regional Connectivity: Asia-Pacific Information Superhighway," *UNESCAP*, accessed 17 August 2017, http://www.unescap.org/op-ed/next-leap-regional-connectivity-asia-pacific-information-superhighway.
[171] Ibid.

kilometers of Trans-Asian Railway Networks," combining the two would optimally cut costs while improving a much-needed aspect of Asian-Pacific countries.[172]

UNESCAP seeks to do just that with its Asia-Pacific Information Superhighway (APIS) initiative. APIS "aims to increase the availability and affordability of broadband internet across Asia and the Pacific" by employing already present infrastructure to incorporate a more wholesome network in the region and jointly increase connectivity in both the physical and digital realms.[173] The Asia-Pacific Information Superhighway goes a long way in our efforts to reach the SDGs by helping bridge the digital divide and connecting various parts of the Asian-Pacific region to increase the adoption of broadband in countries that do not currently have sufficient infrastructure. Having the proper infrastructure is a necessity for developing countries to improve their citizens' internet connectivity and reaching a higher level of sustainable development.

Gender Inequality

In conjunction with the existing issues the region faces, gender inequality is also observed in the information and communications technologies arena. Women and girls in Asia and the Pacific, regardless of geographic location, level of income, and age, have less access to broadband internet and knowledge-enhancing software applications.[174] This leads to further complications. Digital gender gaps reflect gender inequalities throughout societies and economies – a range of socio-economic and political factors affect gender divides, with attitudes and cultural beliefs likely to be self-reinforcing.[175] This makes it a difficult aspect to address and change is not likely to occur overnight. By reducing the gender gap in access to information, we can take further strides for equality in other aspects of life. Addressing the digital gender inequality and taking steps to ensure equal access to information and opportunities will go a long way in achieving progress on the 2030 Agenda for Sustainable Development. "Since adopting the Beijing Declaration and Platform for Action in 1995, some progress in gender inequality…has been made in Asia and the Pacific," but there is still a marked difference in internet penetration rates between males and females, as can be seen in Appendix B.2.[176]

Due to the nature of this issue, "strategic action and transformative measures will be critical to advancing to advancing gender equality and women's…empowerment in the Asia-Pacific."[177] There are many changes international organization and governments can make to ensure that women have the same access to internet as men. We can work to ensure "access to ICTs by women and girls and mitigating or responding to the threats online that hinder women's access to and use of technology."[178] Cost is a barrier everyone faces when it comes to internet access, especially in

[172] Ibid.
[173] "Asia-Pacific Information Superhighway."
[174] Broadband Commission Working Group on Broadband and Gender, "Doubling Digital Opportunities: Enhancing the Inclusion of Women & Girls in the Information Age," *ITU,* (2013): 6, accessed 25 May 2017, http://www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf.
[175] Ibid.
[176] Shamshad Akhtar, "Closing Gender Gaps in Asia and the Pacific Requires Transformative Change," *UNESCAP*, last modified 3 March 2017, http://www.unescap.org/op-ed/closing-gender-gaps-asia-and-pacific-requires-transformative-change.
[177] Ibid.
[178] "Action Plan to Close the Digital Gender Gap," *International Telecommunications Union,* accessed 13 August 2017, https://www.itu.int/en/action/gender-equality/Documents/ActionPlan.pdf.

developing countries. In order to circumvent that particular issue, public resources can be made more available to the masses, thereby giving everyone including women an avenue to access the internet. One example of taking such measures is free public Wi-Fi. Select cities around the world have already adopted such a feature, including New York City in the US and Perth in Australia.[179]

There are two main barriers to achieving digital gender equality. One of the biggest reasons women may have less access to internet is the general lack of awareness as to what it has to offer, as evidenced in Appendix B.3. Increasing awareness of what internet offers will allow women to better utilize the internet as both an educational and economic tool. Lack of exposure or proper facilities for women to interact with ICT is another roadblock in overcoming the gender gap. This barrier can be circumvented through training and building facilities with internet access and ICT dedicated specifically for women. By providing opportunities, specifically for women, to engage with the technology and orient themselves with the possibilities, we can bring an end to the gender gap in this digital divide.

Many concrete benefits rise from increasing internet access for women (see Appendix B.4). internet can be used for further studies, education, and increasing job prospects. Internet access also offers greater access to specialized information like health and business-related information to which they may not have had exposure.[180] Internet access is also the key to gender equality in many other aspects of society. Discrepancies in education and employment can be diminished using online resources. The internet is an important utility in women empowerment. The internet allows women to be more independent while severing the stereotypes commonly placed on them. A prime example of women's empowerment through the internet is The Pink Chaddi Campaign in India. Using the internet as a source for making connections and encouraging discussions, Nisha Susan, a journalist and writer for the *Tehelka* political magazine, and her fellow organizers sought to unite and inspire other women to stand up against oppressive vigilante policing.[181] Another initiative that utilizes the internet for women empowerment is the Sreesakthi Portal, a government-led portal that challenges gender-norms through providing a space for women to consolidate and "share reflections and insights in a manner that unpacks gender discrimination and enables new imaginations of society, based on equality and justice."[182] The Asian Women's Exchange is an information service and network that seeks to do the same, but at a global level. In the end, internet access provides benefits to everyone and goes a long way in decreasing the gender gap.[183] Countries that work towards bridging the gender gap also pave the way for further economic development.

Role in Economic Development

Digitalization of trade has revolutionized the economy and the way countries engage each other in the global market. As the internet continues to penetrate developing countries and rural areas,

[179] Donald Strachan, "9 Cities with the Best Free Wifi," *Business Insider*, last modified 13 February 2014, http://www.businessinsider.com/9-cities-with-the-best-free-wifi-2014-2.
[180] "Women and the Web," *Intel Corporation* (2012): 10, accessed 17 August 2017, https://www.intel.com/content/dam/www/public/us/en/documents/pdf/women-and-the-web.pdf.
[181] Ibid.
[182] "E-Government for Women's Empowerment in Asia and the Pacific," *Social Development Decision – UNESCAP* (2016): 143, accessed 28 August 2017, http://www.unescap.org/sites/default/files/E-Government-for-Women-in-Asia-Pacific.pdf.
[183] Broadband Commission, "Doubling Digital Opportunities," 6.

businesses are able to utilize it to reach consumers all over the world. However, those countries that have not made strides to increase their broadband connectivity are falling further back: the digital divide "limits the opportunities of the Internet for digital trade and, even more profoundly, economic development."[184] Despite the economic need for internet access, the affordability of high speed internet access continues to get in the way of progress. For example, the prices of average monthly fixed broadband prices are three times higher in developing countries than in developed countries.[185] There are countless factors that influence the cost of internet access, the least of which are geography, population, quality of infrastructure, and competition.

International trade has a huge impact on the economic state of many countries, and those developing countries that are working to incorporate better broadband connectivity are able to reap the benefits. The World Bank conducted a study that concludes a "10 percentage point increase in fixed broadband penetration would increase GDP growth by 1.21% in developed economies and 1.38% in developing ones."[186] Simply put, internet access leads to a more efficient flow of information. This results in better business practices and innovation, which require more capital and improved labor, in turn leading to economic growth.

The internet also has a profound effect on cross-border trade and facilitates countries connecting in the Asia-Pacific region. Trade can also contribute to diminishing the growing digital divide and providing a method to bridge this gap between developed and developing countries of the Asia-Pacific. Increasing broadband connectivity would enable those countries falling behind to import new technologies and infrastructure necessary to remain competitive in the global arena. It would also provide "new opportunities for entrepreneurs and small businesses in these countries to engage in international trade."[187] There seems to be a positive correlation between the e-commerce index of a country and its broadband connections per 100 people, as shown in Appendix B.5. The e-commerce index measures "the readiness of countries to engage in online commerce."[188] In this new digital economy, "trade transactions are moving from physical interactions between sellers and buyers, to cyberspace – with the marketplace being based on online activities without requiring direct interactions."[189] By increasing a country's rank in the e-commerce index and thus the broadband connections per 100 people, it allows that country to competitively exist in the new digital economy.

Despite the current situation in broadband connectivity in the Asia-Pacific, it still leads the world in terms of e-commerce. Closing the digital divide and bringing less developed economies into the fold

[184] Joshua P. Meltzer, "Maximizing the Opportunities of the Internet for International Trade," *E15 Expert Group on the Digital Economy – Policy Paper* (2016): 14, accessed on 13 August 2017, http://www3.weforum.org/docs/E15/WEF_Digital_Trade_report_2015_1401.pdf.
[185] Ibid.
[186] Michael Minges, "Exploring the Relationship Between Broadband and Economic Growth," *World Development Report 2016: Digital Dividends* (2015): 3, accessed 13 August 2017, http://pubdocs.worldbank.org/en/391452529895999/WDR16-BP-Exploring-the-Relationship-between-Broadband-and-Economic-Growth-Minges.pdf.
[187] Meltzer, "Maximizing the Opportunities of the Internet for International Trade," 11.
[188] "UNCTAD B2C E-Commerce Index 2016," *UNCTAD Technical Notes on ICT for Development,* No. 7 (2016): 1, accessed 13 August 2017, http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d07_en.pdf.
[189] "International Trade in the Digital Age," *Asia-Pacific Trade and Investment Report 2016,* (2016): 104, accessed 13 August 2017, http://www.unescap.org/sites/default/files/aptir-2016-ch7.pdf.

along with the PRC, Japan, and New Zealand, will enable this region to prosper even more. With the success of Alibaba Group and JD.com in the PRC, many countries are slowly opening up their borders to e-commerce.[190] Indonesia, for example, recently opened up to allowing e-commerce operators to incorporate by loosening its protectionist approach to foreign investment.[191] With the addition of e-commerce corporations and uptake of internet in developing countries comes the creation of jobs, another key element in the development of a country's economy.

The internet is a transformative tool for developing countries that enables economic development by providing "access to information, connecting people to businesses anywhere, and opening up new markets."[192] The spread of innovative ideas lies at the basis of economic success. By connecting people across the world, the internet enables the flow of these ideas and allows people take advantage of groundbreaking research and technology developments around the world. According to a recent study done by Deloitte, a global accounting and consulting firm, if developing regions like South and East Asia increased their internet access levels, productivity in those regions could increase by 31%.[193] Specifically in the arena of agriculture, one which many developing countries' economies in Asia and the Pacific depend, internet connectivity can improve productivity by providing farmers with "valuable information on weather conditions, disease control, and new methods of maximizing crop yield."[194] This shows the truly transcendent ability of internet access to affect industries that initially seem entirely unrelated. Internet access also plays a huge role in increasing employment opportunities. It creates jobs both directly through the technology-based enterprises and also indirectly through increasing labor demand in companies that support technology-based enterprises. Such demand is also increasingly creating technology hubs in many developing countries like Bangalore, India. If internet levels in India reached that of other developed countries, almost 65 million jobs would be created.[195] Clearly, the internet plays a big role in the economic development of a country that can be panned out to include many more benefits.

Utility of Internet in Health & Social Services

In addition to the economic benefits of internet access, there are many wide-ranging social benefits that come with increased access to information, especially in health and social inclusion. The internet is an enabler. It allows individuals to better utilize the resources to achieve a higher standard of living and provide services to wider range of people. Internet access is key to achieving the Millennium Development Goals (MDGs) and serves as a vital accelerator in all aspects of social development, including hunger, poverty, child health, HIV/AIDS, the environment, and partnerships between local governments and service providers.[196]

[190] Ibid.
[191] Andrew Birmingham, "APAC Leads the World in Ecommerce Growth," *LinkedIn*, last modified 27 July 2016, https://www.linkedin.com/pulse/apac-leads-world-ecommerce-growth-andrew-birmingham.
[192] "Value of connectivity: Economic and social benefits of expanding Internet access," *Deloitte LLP,* (2014): 13, accessed 13 August 2017, https://www2.deloitte.com/content/dam/Deloitte/br/Documents/technology-media-telecommunications/ValorConectividade.pdf.
[193] Ibid.
[194] Ibid.
[195] Ibid., 15.
[196] Ibid., 4.

As many developing countries in the Asia-Pacific still lack basic health services, access to the internet can "improve health conditions by reducing the incidence of diseases through better information for both patients and health practitioners."[197] The internet improves the knowledge patients, and even health workers, have concerning proper preventative measures for the spread of disease and methods to maintain a healthy lifestyle. Providing such information also has an impact on child mortality rates. Rural villages in India with internet access "had 14% lower child mortality rates than villages without the Internet." [198] Many of these negative outcomes are preventable with internet access. As such, even if the initial investment costs are high, the long (and even short) term benefits greatly outweigh those costs.

The internet further aids the health sector by increasing the adherence to prescribed medication. More informed people are more likely to make more informed decisions. This includes decisions like whether or not to continue treatment or finish a full course of medication. Most importantly, broadband connectivity enables remote diagnoses. Through recent advancements in telemedicine technology, the internet allows medical professionals to diagnose patients without have to be in the same geographical location. The internet also allows patient information to be sent over to labs and other doctors for further evaluation and treatment proposals. The internet can play a huge role in breaking down the barrier many developing countries face in lacking the proper medical personnel and infrastructure.

The Philippines took this to the next step collaborating with the Luxembourg Ministry of Foreign and European Affairs and the NGO German Doctors to launch e-health platform (SATMED) to deliver accessible digital services.[199] Similarly, doctors in Viet Nam began using the video conferencing tool, Polycom, to provide consultations remotely.[200] Telemedicine is really taking off in the Asia-Pacific, and a stable high-speed internet connection is necessary to ensure its continued success. In the big picture, the internet is a tool for the health and social advancement of developing countries.

Internet connectivity also plays a huge role in social inclusion or the "participation of individuals and groups in society's political, economics, and societal processes."[201] It can potentially optimize the provision of government services, especially to rural areas, and increase the awareness of such services. The internet plays a key role in how people interact with each other and their government, and its adoption has resulted in "the quality and responsiveness of the services public institutions provide to their citizens."[202] Not only does internet improve the public sector by making the government more accessible, but it also opens up communication between citizens and promotes social well-being.

[197] Ibid.
[198] Ibid., 19.
[199] Adriane Reodique, "Expanding healthcare services in Asia Pacific through telehealth," *MISAsia*, last modified 20 September 1016, https://www.mis-asia.com/tech/emerging-technology/expanding-healthcare-services-in-asia-pacific-through-telehealth/.
[200] Ibid.
[201] "Value of connectivity," 24.
[202] Ibid., 25.

Government Intervention

Government undoubtedly plays a huge role in the adoption of broadband connectivity and access to information in many of the countries of the Asia-Pacific. The Republic of Korea and the PRC both had governments that intervened in the internet realm, and it may be that this intervention actually enabled such success in these countries.

Much of Korea's success in the broadband market stems from a few key facilitating factors that enabled the country to grab hold of an innovative and revolutionary new technology to push their economy forward. The government of Korea made a substantial contribution through "its centralization of authority on ICT policy coordination," "high level of public engagement in policies," "focus on a 'new model for economic growth' built on knowledge based services and ICT development," and "widespread regulatory reforms."[203] Korea also invested a lot in the promotion of broadband and increasing the awareness of its utilities through "rapid expansion on both the supply and demand sides in the early stages of the Korean broadband market's development," "growth in Internet usage that was not limited to typical early adopters, such as the young and the college educated," and "rapid expansion in the trade of ICT and broadband related goods."[204] Through Korea's success in broadband, it is apparent that government intervention played a huge role in facilitating its penetration. The Korean government intervened on several levels, including "research, infrastructure, competition, industry structure, user awareness and ICT education," to enable such widespread access to information. Even if not all of these can be easily replicated everywhere, governments of developing countries can take heed of the actions taken by Korea's government in successfully promoting broadband connectivity.

China is another country of the Asia-Pacific region that has been a frontrunner in the broadband market. Without the country contributing to the statistics of the number of fixed broadband connections in the entire region would be drastically lower. Despite these high numbers, the PRC continues to experience problems with the uneven distribution of broadband. Rural and landlocked sectors of China still have relatively low fixed broadband subscriptions as compared to the coastal and urban centers. In order to unify the provinces in broadband connectivity, the "government announced the One Belt One Road (OBOR) Initiative.[205] Based on six economic corridors, and corresponding to the Silk Road, this Initiative utilizes "[an ancient network of trade routes]…[,] to promote connectivity of these economies with the PRC through infrastructure, trade and investment based on the original Silk Road's Pathway."[206] China's success following the implementation of the OBOR initiative contributes to the idea that government intervention plays a big role the widespread adoption of broadband connectivity.

As can be seen with these two countries of the Asia-Pacific, government intervention and regulation plays a vital role in the development of internet connectivity in the region. Taking heed of this success, many countries are following suit with governments playing a bigger role in expanding their internet networks. The Philippines recently established a Department of Information Communications and Technology (DICT) that is ardently working to improve internet speeds and

[203] "Broadband Policy Development in the Republic of Korea," *Ovum Consulting,* (2009): 8, accessed on 13 August 2017, http://www.infodev.org/infodev-files/resource/InfodevDocuments_934.pdf.
[204] Ibid., 14.
[205] "State of ICT in Asia and the Pacific 2016."
[206] Ibid.

increase access to free-public Wi-Fi.[207] The DICT implements policies within the country to promote the integration of information and communications technology and provides the framework the government adopts to optimize government ICT resources.[208]

CURRENT STATUS

Role of Broadband in Education

Internet plays a large role in access to information and giving people the opportunity to educate themselves without relying on others. It is also an extraordinary useful teaching aid and supplement that can be used in addition to normal methods to add more value to education. E-learning can also play a huge role in other aspects of life, like disaster management, healthcare, and insurance selection. As the internet has the power to change the way education is managed and received, UNESCAP has taken measures to incorporate it into their systems and encourage countries to use it as a tool for change. Understanding the economic benefit of online learning, UNESCAP set up a series of online courses to teach anyone that has broadband connectivity about Disaster Risk Management, Public-Private Partnerships, and even Business Process Analysis (BPA) for Trade Facilitation. BPA, in particular, is an online training course developed by ESCAP for people involved with trade facilitation for the "analysis of a business with a view to understanding the processes and improving the efficiency and effectiveness of its operations."[209] UNESCAP is setting an example of the ways the internet could be utilized by countries to create more informed citizens.

A formal education usually requires investing money in physical infrastructure, teachers, and educational resources, but the internet surpasses these requirements and offers educational services to anyone within the network. By engaging with online resources directly, even people in developing countries can gain the advantages of an education and pursue viable employment options. By reaching internet penetration levels deep enough to reach that of developed countries, developing countries can provide an education to 230 million children in just India alone.[210] The internet is not only an educational tool for children and students but also for teachers as well. By making education resources and tools, such as curricula, teaching plans, worksheets, and textbooks, around the world available to educators, developing countries can improve the quality of education they provide in a cost-effective and viable way.

E-learning offers a wide variety of features like live instruction, video content delivery, student-to-student interactions, remote test administration, up-to-date materials, and self-learning.[211] No matter how developed a country is, online learning can only serve to further contribute to raising the level of education, literacy, and economic development.[212] Utilizing broadband connectivity to promote

[207] "Faster speeds, better Internet access in 2017 for laggard Philippines: government," *CNN Philippines*, last modified 7 November 2016, http://cnnphilippines.com/news/2016/11/07/faster-speedsbetter-internet-access-in-2017-for-laggard-philippines-government-rodolfo-salalima.html.
[208] Ibid.
[209] "Business Process Analysis," *Trade Facilitation Implementation Guide*, accessed 13 August 2017, http://tfig.unece.org/contents/business-process-analysis.htm.
[210] "Value of connectivity," 22.
[211] "Why E-learning Has a Promising Future in India," *Hughes*, accessed 13 August 2017, https://www.hughes.com/collateral-library/why-e-learning-has-promising-future-india.
[212] Ibid.

online learning is the next step in closing the digital divide. Many countries, like Sri Lanka and New Zealand, have tried to implement broadband connectivity and ICT into their curriculums but there is a multitude of criteria that must be met in order for these practices to be effectively implemented. One of the biggest issues is the lack of infrastructure to maintain broadband and the lack of policy to regulate its use in education. Many countries in UNESCAP are just now gaining the ability to take on these to challenges.

Efforts to Remedy the Situation

The international community has initiated a number of efforts in recent years to curb this growing digital divide and increase not only broadband connectivity, but also the ability of people to access necessary infrastructure.

Asi@Connect is an organization funded to set up new networks, facilitate the exchange of knowledge, work towards the SDGs, and improve public internet access.[213] It has worked to establish a research and education network spanning the European and Asian continents and is continuing to expand its reaches to form a wide-reaching trans-Eurasia network. Currently this network already supports "24 countries/economies by providing a regional high-capacity internet backbone for R&E collaborations within the Asia-Pacific...and with other parts of the world."[214] Asi@Connect is a revolutionary step toward increasing internet connectivity in the developing economies of the Asia-Pacific, and facilitating the exchange of information and ideas, and bridging the gap in education and research across the world.

Opposingly, the Asia-Pacific Information Superhighway seeks "to address the widening digital divide spreading across the ESCAP Region partly due to poor and underdeveloped basic internet infrastructure."[215] The Asian-Pacific Information Superhighway is an effort aimed at "developing better tools and identifying more efficient mechanism to enable timely solutions including developing more sustainable solutions over the long run will be key for 2015 and beyond. ICT and internet is part of that solution."[216] It aims to enhance broadband connectivity from "Turkey to Kiribati in a holistic manner… [through] effective Internet traffic management, e-resilience, and inclusive broadband access."[217] This initiative, however, is still in the initial phase and much more planning and organization is required to achieve such a feat.

These are the two largest efforts taken to directly increase broadband connectivity, but more can be done to ensure the developing countries of the Asia-Pacific overcome this hurdle and achieve a level

213 "Asi@Connect--Bridging the digital divide across Asia-Pacific," *Geant*, accessed 13 August 2017, https://www.geant.org/News_and_Events/CONNECT/Pages/ASIACONNECT-Bridging-the-digital-divide-across-Asia-Pacific.aspx.
214 "Asi@Connect project launched to bridge digital divide in Asia-Pacific," *Business Standard*, last modified 14 February 2017, http://www.business-standard.com/article/news-ians/asi-connect-project-launched-to-bridge-digital-divide-in-asia-pacific-117021401286_1.html.
215 "The Asia Pacific Information Superhighway: An Insider's View," *Internet Society*, accessed 13 August 2017, https://www.internetsociety.org/articles/asia-pacific-information-superhighway-insiders-view-interview-dr-shamika-sirimanne-un-escap.
216 Ibid.
217 Shamshad Akhtar, "Closing the broadband divide to connect people in Asia and the Pacific," *Eco-Business*, last modified 21 September 2016, http://www.eco-business.com/opinion/closing-the-broadband-divide-to-connect-people-in-asia-and-the-pacific/.

of connectivity comparable to that of developed countries of the world. Delegates must take these current initiatives into consideration before proposing any future policy or legislation that affects internet connectivity in the region.

BLOC ANALYSIS

The point of division for debate on this topic will be primarily dependent upon the state's level of development and aforementioned ratio regarding the fixed broadband connections per 100 inhabitants. This statistic alone can give us a glimpse into how pervasive access to information is in the countries of the Asia-Pacific and how these countries will act on this issue in committee. This point of division differentiates the countries of the Asia-Pacific based on how much effort they have put into giving their citizens access to internet. It also hints upon the capacities of the countries in different blocs to provide internet access with the previously discussed limitations in infrastructure and simple lack of awareness. This division promotes debate because countries at different levels of access will have different approaches to addressing the lack of internet access in the Asia-Pacific as a whole. More developed countries would potentially be able to provide aid in infrastructure or policy that has worked for them regarding internet access. Those countries with a lower ratio of fixed broadband subscriptions per 100 inhabitants would be able to discuss what problems they are facing to provide such access and why proposed solutions may not be practical given their particular situations.

Developed Countries with Advanced Economies and High (Greater than 30) Fixed Broadband Subscriptions per 100 Inhabitants Ratios

There are select countries in the Asia-Pacific that are setting the standard for broadband access and essentially leading the way to a more connected future in the region. These countries may be the same countries that are overshadowing the rising regional divide that has been growing over the past decade. It is because of these countries' high penetration rate of fixed broadband that the less developed countries are falling further behind. Developed countries will have much to contribute to the debate on how to increase connectivity, cut costs, develop the proper infrastructure and can help other countries reach their potential. Such countries include Japan, Republic of Korea, and New Zealand, and as they are at the top end of this digital divide, they will have a different perspective when approaching this topic. Having the necessary policies in place and infrastructure established, these countries can serve as a mentoring role to enable less developed countries to adopt high-speed broadband at low costs.

The Republic of Korea was an early leader in the international broadband market, reaching the highest standard in the world in a span of two years and maintaining the highest penetration rate up until the mid-2000s.[218] Because this country experienced high demand for internet connectivity, it was able to quickly upgrade its offers and provide them at lower costs, enabling whoever wants access to have it. Demand can be directly associated with awareness of what broadband connectivity has to offer. Many people sought to gain broadband connectivity as they came to understand its usefulness. Despite the initial skyrocketing of broadband penetration, South Korea did experience a couple years of broadband instability because of the role the government played in "creating a highly competitive market framework with limited regulatory controls…and the operators' business models

[218] "Broadband Policy Development in the Republic of Korea," 4.

which…focused on acquiring more subscribers through low prices and aggressive marketing activities without service differentiation."[219] The Republic of Korea took the initiative early on and continues to reap the benefits of investing in broadband.

This bloc also includes developed countries that are part of UNESCAP but not necessarily regionally associated with the Asian-Pacific digital divide. These include the United States, the UK, and Australia.

Australia, through its National Digital Economy Strategy, also seeks to become a leading digital economy by 2020.[220] While the Republic of Korea spends "less than 1% of its government revenue on developing its high-speed network," Australia spends almost 8% of its government revenue to improve internet speeds.[221] Similar to the APIS initiative taken on by UNESCAP to conquer the digital divide in the Asia-Pacific, the government of Australia partnered with Telstra, "Australia's largest telecoms provider, to re-use existing infrastructure" to cut costs on adopting the National Broadband Network, which would essentially provide 100% of its premises with access to internet, 93% through fiber optic access and the remaining 7% through wireless and satellite access.[222]

Even though many of the developed countries will be undergoing policy and infrastructure changes to improve internet speeds, similar approaches can be used by developing countries to increase internet access throughout their respective countries.

Developing Countries with Developing Economies and Fixed Broadband Subscriptions per 100 Inhabitants Ratios between Ten and 30

There is a subset of countries in the Asia-Pacific that are in the mid-range when it comes to broadband connectivity. These countries may have started to initiate programs to increase awareness of the benefits of internet connection and to ameliorate current infrastructure. Iran and Turkey, for instance, fall into this category along with many others within the range of ten and 30 (see Appendix B.6).

Iran's internet paradigm has been "an island, with the government running it with heavy hand since at least 2004."[223] The government of Iran had complete control over the internet, and they took advantage of this monopoly to strategically reign over its citizens. However the iron grip held by the Iranian government on internet access led to "technological stagnation" and became "ill-equipped to fulfill the growing demand" resulting from more and more Iranians seeking to become connected.[224] However, the government later took steps to rectify the situation through the national information network, in which "government entities have sponsored internet Exchange Points across the

[219] Ibid., 6.
[220] "Smart policies to close the digital divide," *Economist Intelligence Unit*, (2012): 9, accessed 6 September 2017, http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan049753.pdf.
[221] Ibid.
[222] Ibid.
[223] Collin Anderson, "How Iran is Building its Censorship-Friendly Domestic Internet," *Wired*, last modified 23 September 2016, accessed 15 August 2017, https://www.wired.com/2016/09/how-iran-is-building-its-censorship-friendly-domestic-internet/.
[224] Ibid.

country" with the aim of "improving performance, increasing reliability and lowering costs."[225] The government is now using this improved internet and infrastructure as a tool for control. Even though government still played a huge role in the development of broadband in the country, over regulation resulted in limiting its progress.

Turkey is another country in this mid-range that has more recently adopted a restrictive policy regarding internet access after the coup attempt of July 2016. While in the late 1990s and early 2000s there was an absence in regulation of the internet, Turkey passed legislation in 2007 titled "Law No. 5651, Regulation of Publications on the internet and Suppression of Crimes Committed by means of Such Publications" in response to growing "fears around moral issues involving teen sexuality, pornography, drug use, videogames and violence that swept the nation in the early 2000s."[226] This resulted in monitoring of online content and the potential block of websites considered to have broken this law.[227] This internet Law was followed by similar legislation like the "Penal Code to criminalize online speech that insults the Turkish nation, government agencies or the military; the Anti-Terror Law to curb political speech regarding the Kurdish issue and ethnic minority rights; and the Intellectual Property Law to penalize content providers for illegally publishing copyrighted material."[228] However, this is nothing compared to the power the Turkish government has on the internet in the aftermath of the coup. In addition to further legislation on restricting online content and access, AKP government used throttling, cloud/VPN restrictions, and even internet shutdowns as means to regulate content online and maintain control and bolster regime stability.[229]

Many countries in this mid-range will still have governments that play a role in the access to information via the internet, but the strong government intervention here may not be as beneficial to the increase in awareness and access to internet.

Developing Countries with Developing Economies and Low (Less than Ten) Fixed Broadband Subscriptions per 100 Inhabitants Ratios

Countries in this bloc are struggling to incorporate broadband and may have infrastructure that provides slow, or even more limited bandwidth. Countries in this particular bloc (see Appendix B.6) include Afghanistan, Timor-Leste, and Myanmar. Myanmar currently has very low broadband penetration, with slow speeds and weak internet connectivity followed by limited infrastructure to support a larger network and faster speeds.[230] Timor-Leste also suffers from lack of proper infrastructure to take on broadband connectivity and implement ICTs. Timor-Leste has immense potential, however, to increase its broadband quality by obtaining a "fiber-optic link from neighboring Indonesia," which would "drastically improve the quality of broadband service for current users…support new users without compromising quality…[and] spur new economic

[225] Ibid.
[226] Bilge Yesil, Efe Kerem Sozeri, and Emad Khazree, "Turkey's Internet Policy after the Coup Attempt," *Internet Policy Observatory,* (2017): 5, accessed 6 September 2017, http://globalnetpolicy.org/wp-content/uploads/2017/02/Turkey1_v6-1.pdf.
[227] Ibid.
[228] Ibid.
[229] Ibid.
[230] Min Hlaing, "Future Broadband Trend and Myanmar Landscape," *Redlink Communications*, last modified 29 November 2013, https://www.itu.int/en/ITU-T/Workshops-and-Seminars/bsg/201311/Documents/S5P1_Min_Swe_Hlaing.pdf.

activities."[231] This again follows UNESCAP's goals of fostering a space for open communication in which countries can learn and share information with each other. As another example, Afghanistan has limited infrastructure as well as very weak international and domestic connectivity. However, Afghanistan does have the capability to take on higher-volume bandwidth by revamping the current connection to "all of its neighbors via terrestrial fiber connections, with the exception of the PRC."[232] As most of the countries that are categorized in this bloc with a ratio of fixed broadband subscriptions per 100 individuals less than ten are LDCs, they do not have the proper resources or funding allocation to support proper broadband connectivity.

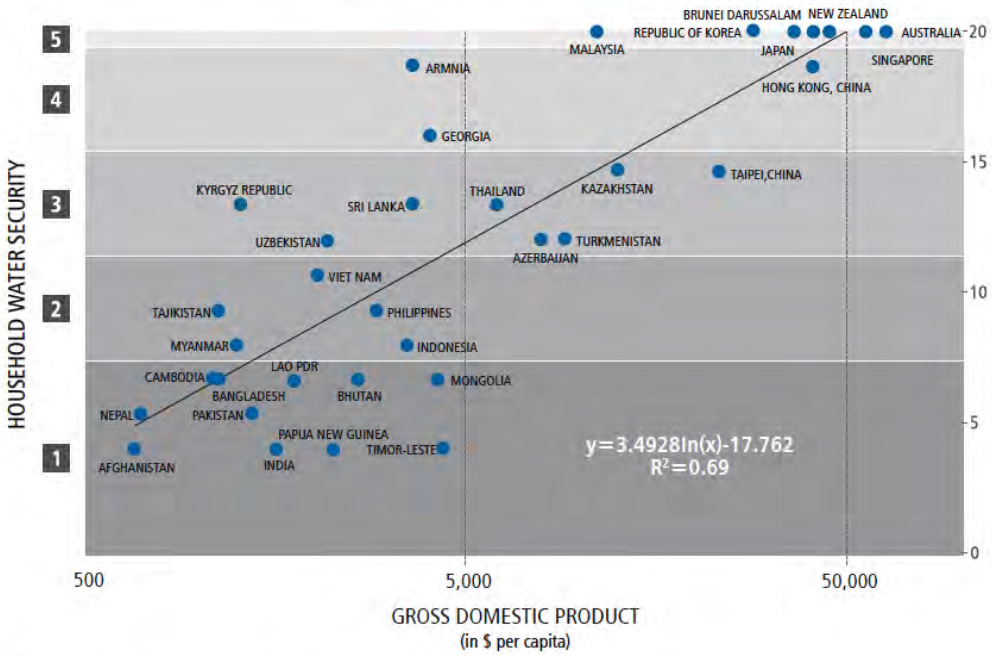
COMMITTEE MISSION

Addressing the issue of the growing digital divide falls under the jurisdiction of the UNESCAP as it has both social and economic implications with specific regards to the Asian-Pacific region. One of the biggest motivations for this committee in particular is the achievement of the 2030 Agenda for Sustainable Development, and bringing an end to this discrepancy in internet access among countries of the region. The internet is "a critical enabler of sustainable development" as it "provides the underpinning for the growth of ICTs and for an emerging digital economy, in which production and consumption depend on broadband networks and services."[233] As UNESCAP is dedicated "to a resilient Asia and the Pacific founded on shared prosperity, social equity and sustainability," we must diminish the digital divide in the Asia-Pacific and utilize the internet to achieve the SDGs.[234] The internet is at the core of the solution, and we must work together to ensure the best future for our countries and region.

[231] "The Role of Information and Communication Technology in Post-Conflict Timor-Leste," *International Bank for Reconstruction and Development / The World Bank,* (2013): 46, accessed 10 August 2017, https://www.infodev.org/infodev-files/resource/InfodevDocuments_1198.pdf.
[232] "An In-Depth Study on the Broadband Infrastructure in Afghanistan and Mongolia," *UNESCAP,* (2015): 7, accessed 10 August 2017, http://www.unescap.org/sites/default/files/Broadband%20Infrastructure%20in%20Afghanistan%20and%20Mongolia%20v3.pdf.
[233] "The Internet and Sustainable Development," *Internet Society,* last modified 5 June 2015, https://www.internetsociety.org/resources/doc/2015/the-internet-and-sustainable-development/.
[234] "About ESCAP."

APPENDIX A.1: HOUSEHOLD WATER SECURITY AND GROSS DOMESTIC PRODUCT PER CAPITA[235]

Figure 12: Household Water Security and Gross Domestic Product per Capita



LAO PDR = Lao People's Democratic Republic, R^2 = coefficient of determination.

Sources: ADB; World Bank. World Development Indicators, Government Effectiveness, percentile rank data. Accessed 5 January 2016 from http://wdi.worldbank.org/tables

[235] "Asian Water Development Outlook 2016."

APPENDIX A.2: EXAMPLES OF NEGATIVE IMPACTS OF UNTREATED WASTEWATER ON HUMAN HEALTH, THE ENVIRONMENT, AND PRODUCTIVE ACTIVITIES[236]

Table 1.1 Examples of negative impacts of untreated wastewater on human health, the environment and productive activities

Impacts on	Examples of impacts
Health	• Increased burden of disease due to reduced drinking water quality • Increased burden of disease due to reduced bathing water quality • Increased burden of disease due to unsafe food (contaminated fish, vegetables and other produce irrigated) • Increased risk of disease when working or playing in wastewater-irrigated area
Environment	• Decreased biodiversity • Degraded aquatic ecosystems (e.g. eutrophication and dead zones) • Foul odours • Diminished recreational opportunities • Increased greenhouse gas emissions • Increased water temperature • Bioaccumulation of toxins
Economy	• Reduced industrial productivity • Reduced agricultural productivity • Reduced market value of harvested crops, if unsafe wastewater is being used for irrigation • Reduced opportunities for water-based recreational activities (reduced number of tourists, or reduced willingness to pay for recreational services) • Reduced fish and shellfish catches, or reduced market value of fish and shellfish • Increased financial burden on healthcare • Increased barriers to international trade (exports) • Higher costs of water treatment (for human supply and other uses) • Reduced prices of properties near contaminated water bodies

Source: Adapted from UNEP (2015b, Table 1, p. 15).

[236] "Wastewater: The Untapped Resource."

APPENDIX A.3: DETAILED SCORES FOR THE NATIONAL WATER SECURITY INDEX BY ECONOMY[237]

Table A1.2: Detailed Scores for the National Water Security Index by Economy

Economy	KD1	KD2	KD3	KD4	KD5	NWS Score	NWS Index
Scale	1–20	1–20	1–20	1–20	1–20	1–100	1–5
Afghanistan	4.0	8.1	6.0	5.3	4.0	27.5	1
Armenia	18.7	13.1	16.3	9.3	10.8	68.1	3
Australia	20.0	16.6	18.8	16.0	19.4	90.8	4
Azerbaijan	12.0	12.2	12.5	6.7	7.5	50.8	2
Bangladesh	6.7	14.1	5.0	5.3	4.2	35.3	1
Bhutan	6.7	14.2	9.0	10.7	8.0	48.5	2
Brunei Darussalam	20.0	14.3	18.8	14.7	11.4	79.1	4
Cambodia	6.7	12.7	5.6	8.0	4.5	37.5	2
China, People's Republic of	14.7	15.3	13.5	8.0	10.4	61.8	3
Cook Islands	16.0	6.8	15.0	16.0	12.0	65.8	3
Fiji	14.7	11.8	13.8	14.7	11.4	66.3	3
Georgia	16.0	10.5	15.0	9.3	14.0	64.9	3
Hong Kong, China	18.7	14.7	18.8	12.0	11.9	76.0	3
India	4.0	12.9	5.6	5.3	5.3	33.1	1
Indonesia	8.0	14.3	7.9	13.3	6.3	49.8	2
Japan	20.0	14.3	15.0	12.0	19.5	80.7	4
Kazakhstan	14.7	14.8	15.0	12.0	13.8	70.2	3
Kiribati	4.0	7.3	10.0	4.0	5.3	30.7	1
Korea, Republic of	20.0	15.6	15.0	8.0	15.8	74.4	3
Kyrgyz Republic	13.3	12.3	13.8	6.7	5.8	51.9	2
Lao People's Democratic Republic	6.7	11.3	8.0	8.0	4.0	38.0	2
Malaysia	20.0	15.4	15.8	13.3	8.8	73.4	3
Maldives	14.7	12.0	12.0	16.0	4.0	58.7	3
Marshall Islands	6.7	7.3	10.0	12.0	6.7	42.6	2
Micronesia, Federated States of	6.7	11.0	8.8	16.0	10.7	53.1	2
Mongolia	6.7	10.3	7.9	12.0	7.1	43.9	2
Myanmar	8.0	13.4	3.4	10.7	5.3	40.8	2
Nauru	10.7	8.5	10.0	16.0	17.3	62.5	3
Nepal	5.3	11.3	6.0	10.7	4.0	37.3	2
New Zealand	20.0	15.6	18.8	17.3	19.7	91.3	4
Pakistan	5.3	11.5	4.5	6.7	4.7	32.7	1
Palau	18.7	9.0	17.5	14.7	12.0	71.8	3

Table A1.2 *continued*

Economy	KD1	KD2	KD3	KD4	KD5	NWS Score	NWS Index
Scale	1–20	1–20	1–20	1–20	1–20	1–100	1–5
Papua New Guinea	4.0	9.6	7.9	13.3	4.7	39.5	2
Philippines	9.3	11.4	5.0	8.0	6.6	40.4	2
Samoa	16.0	8.0	11.3	13.3	5.4	54.0	2
Singapore	20.0	18.3	18.8	14.7	11.3	82.9	4
Solomon Islands	5.3	8.3	8.0	14.7	13.3	49.7	2
Sri Lanka	13.3	12.4	10.0	8.0	7.7	51.4	2
Taipei,China	14.7	14.7	12.5	9.3	16.4	67.6	3
Tajikistan	9.3	9.3	9.0	12.0	4.3	43.8	2
Thailand	13.3	15.7	6.8	8.0	10.6	54.4	2
Timor-Leste	4.0	9.5	7.0	6.7	14.7	41.8	2
Tonga	16.0	5.0	8.8	8.0	5.2	42.9	2
Turkmenistan	12.0	14.4	14.6	8.0	5.1	54.1	2
Tuvalu	16.0	8.0	15.0	16.0	5.3	60.3	3
Uzbekistan	12.0	10.4	12.5	8.0	5.9	48.8	2
Vanuatu	5.3	8.3	9.0	14.7	4.7	42.0	2
Viet Nam	10.7	12.6	5.0	5.3	6.6	40.2	2

KD = key dimension, NWS = National Water Security.
Source: ADB.

[237] "Asian Water Development Outlook 2016," 88-89.

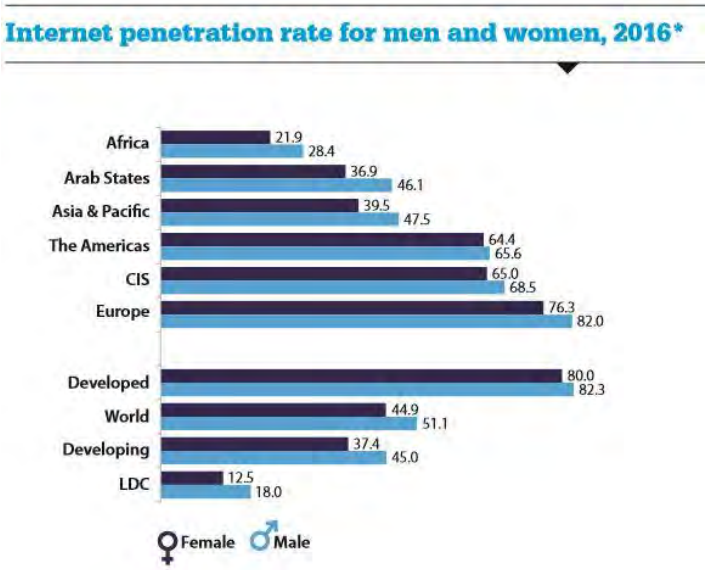
APPENDIX B.1: WHO'S PUSHING BACK[238]

Who's pushing back

Acceso Libre
Access Now
ACI Participa
Advocacy Initiative for Development
AFEX
Afghan Independent Journalists Association
Afghanistan Journalists Center
Africtivistes
Arab World Internet Institute
Asociacion por los Derechos Civiles
Association Djiboutienne des Droits de l'Homme
Association for Progressive Communications
Baaroo
Bahrain Center for Human Rights
Bahrain Watch
Bangladesh Manobadhikar Sangbadik Forum
Bangladesh NGOs Network for Radio and Communications
Bits of Freedom
Bloggers Association of Kenya
Blueprint for Free Speech
Bolo Bhi
Bytes for All
Campaign for Human Rights and Development International
Ca Suffit
Center for Democracy and Technology
Center for Media Research Nepal
CIPESA
CIPIT
Collectif #Sasouffit
Committee to Protect Journalists
Cyber Arabs
Delhi Union of Journalists
Derechos Digitales
Digital Rights Foundation Pakistan
Digital Rights Watch Australia
Digital Society of Zimbabwe
Electronic Frontier Foundation
EMPOWER
Engage Media
EPIC
Feminism in India
Filipino Freethinkers
Fight for the Future
Foundation for Media Alternatives
Free Media Movement, Sri Lanka
Freedom Forum Nepal
Freemuse
Free Press
Free Press Unlimited
Fundacja ePaństwo
Fundacion Via Libre
Gambia Press Union
GetUpI
Gulf Center for Human Rights
GreatFire
Hack the Climate
Heliopolis Institute
Hiperderecho
Hivos
HRNJ-Uganda
Human Rights Foundation
Human Rights Watch
Ideosync Media Combine
ifreedom Uganda
Icelandic Modern Media Initiative
Index on Censorship
Internet Lab
International Federation of Journalists
Internet Freedom Foundation
International Media Support
Internet Sans Frontières
Internet Society
International Service for Human Rights
Internet Policy Observatory Pakistan
Internews
Ipandetec
IRADA
Iraqi Network for Social Media
Institute for Development of Freedom of Information
Institute for Reporters' Freedom and Safety
IT for Change
ITS Rio
Iyina
Jhatkaa
Jordan Open Source Association
Journalist Association of Bhutan
KICTANet
Kiwix
Korean Progressive Network Jinbonet
La Quadrature du Net
Maldives Journalists Association
Media Development Foundation Maldives
Media Foundation for West Africa
Media Institute of Southern Africa
Media Matters for Democracy
Media Rights Agenda
Open Observatory of Network Interference
Open Democracy Advice Centre
OpenMedia
Open State Foundation
Open Technology Instititute
Namibia Media Trust
NYC Mesh
Paradigm Initiative Nigeria
Pacific Freedom Forum
PEN America
PEN Melbourne
PenPlusBytes
Press Union of Liberia
Projet d'action pour une Alternance Crédible au Tchad
Public Knowledge
R3D
Reporters Sans Frontières
Right2Know
Sarawak Report
ShareAction
Sinar Project
Social Media Exchange
SocialTic
Software Freedom Law Centre
SonTusDatos
South Asia Media Solidarity Network
Sula Batsu
Sunlight Foundation
Trop C'est Trop
Turkey Blocks
TVYangu
Unwanted Witness
Usuarios Digitales – Ecuador
Venezuela Inteligente
Viet Tan
Web Foundation
WITNESS
Women in Information Technology
Women of Uganda Network
Working Woman Journalists Nepal

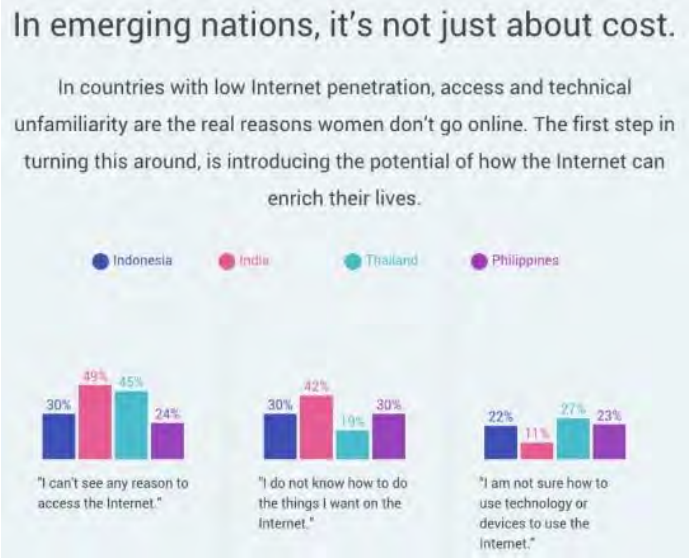
238 "#KeepItOn."

APPENDIX B.2: INTERNET PENETRATION RATES FOR MEN AND WOMEN, 2016[239]



[239] "ICT Facts and Figures 2016," *The International Telecommunication Union*, June 2016, accessed 7 September 2017, http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2016.pdf.

APPENDIX B.3: IN EMERGING NATIONS, IT'S NOT JUST ABOUT COST[240]

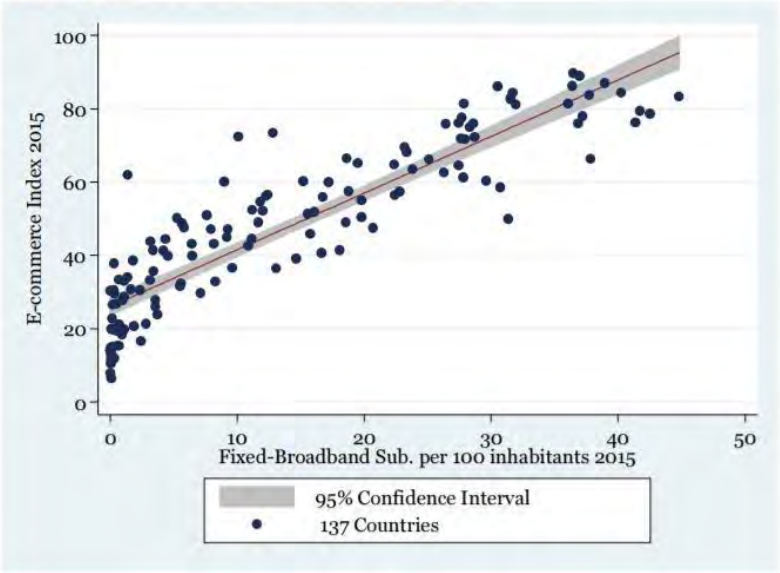


APPENDIX B.4: MICRO AND MACRO OUTCOMES[241]

[240] "Asia Pacific Insight Report: Women and Technology," *Womenwill*, accessed 7 September 2017, https://www.womenwill.com/insights/index.html.
[241] "Women and the Web."

APPENDIX B.5: E-COMMERCE VERSUS FIXED BROADBAND ACCESS, 2015[242]

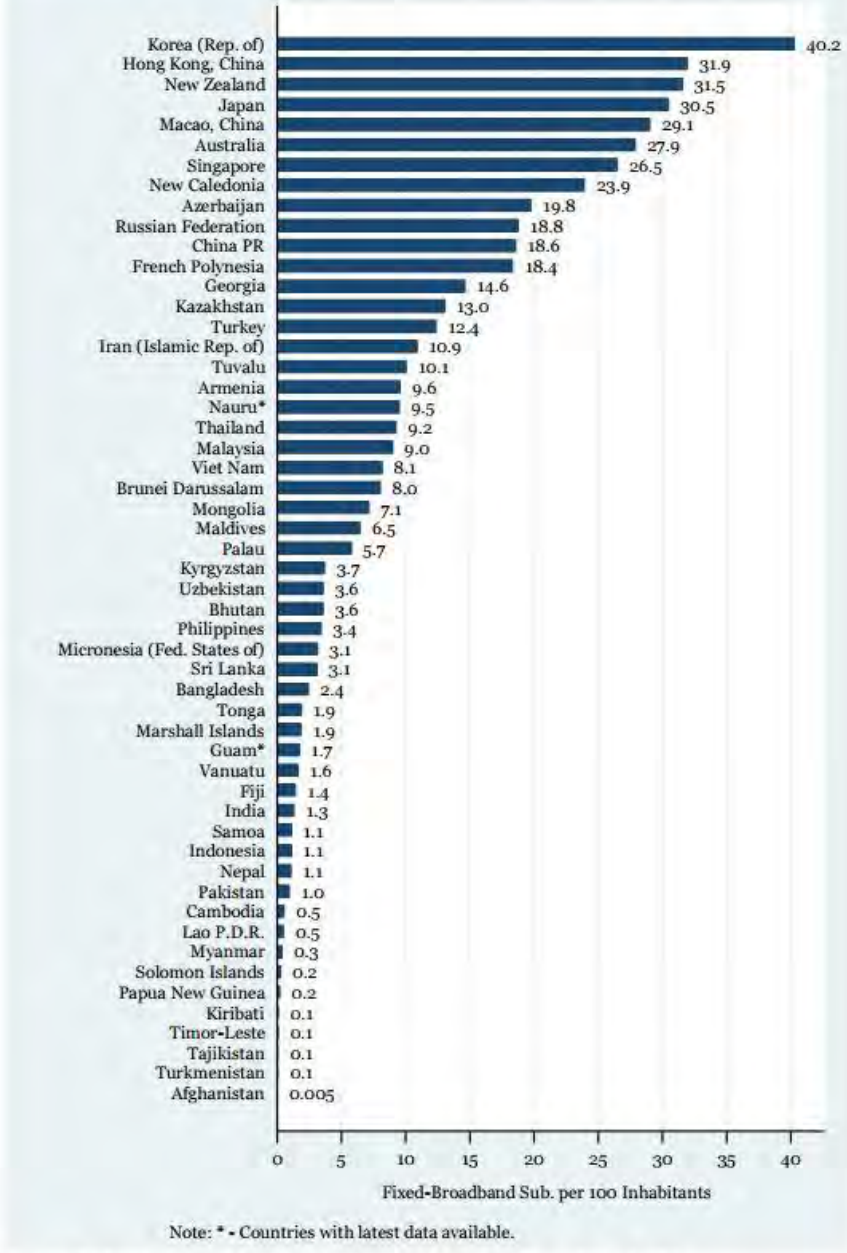
Figure 15: E-commerce versus fixed broadband access, 2015



[242] "State of ICT in Asia and the Pacific 2016."

APPENDIX B.6: FIXED BROADBAND SUBSCRIPTIONS PER 100 INHABITANTS IN ESCAP COUNTRIES IN 2015[243]

Figure 8: Fixed broadband subscriptions per 100 inhabitants in ESCAP countries in 2015



Source: Produced by ESCAP, based on data sourced from ITU World Telecommunications/ICT Indicators Database (accessed July 2016).

[243] Ibid.

IMPORTANT DOCUMENTS

TOPIC A

"Asian Water Development Outlook 2016: Strengthening Water Security in Asia and the Pacific." *Asian Development Bank* (2016): i-115. Accessed 5 July 2017. https://www.adb.org/sites/default/files/publication/189411/awdo-2016.pdf

This report by the Asian Development Bank presents the overall situation of water security throughout the Asia-Pacific region. It does it by first explaining the term "water security" and then providing evidence on the region's current status.

Brears, Robert. "Urban Water Security in Asia and the Pacific: Promoting Demand Management Strategies." NFG Policy Papers Series. March 2014. Accessed 6 July 2017, http://edocs.fu-berlin.de/docs/servlets/MCRFileNodeServlet/FUDOCS_derivate_000000004255/pp414-urban-water-security-asiapacific.pdf.

This source analyzes the state of water security in Asia and the Pacific, and evaluates a number of strategies employed or considered by countries within the region to ensure a bettered state on the issue.

"Progress on Drinking Water, Sanitation and Hygiene 2017 Update and SDG Baseline." *World Health Organization and the United Nations Children's Fund*. Last modified 12 July 2017. Accessed 14 July 2017. https://www.unicef.org/publications/files/Progress_on_Drinking_Water_Sanitation_and_Hygiene_2017.pdf.

This source recalls the individual Sustainable Development Goals that relate directly to water security and its accompanying aspects, and evaluates the progress made by individual states and regional bodies to work towards these goals.

"Wastewater: The Untapped Resource." *United Nations Economic and Social Commission for Asia and the Pacific*. 2017. Accessed 25 May 2017. http://www.unescap.org/sites/default/files/publications/wwdr2017-full.pdf.

This report by UNESCAP offers a great introduction to wastewater as a means to address water security. It presents the way it functions, its perks but also its intricacies. It also directly connects the topic with the Asia-Pacific region.

"Water and Green Growth: Case Studies from Asia and the Pacific," *United Nations Economic and Social Commission for Asia and the Pacific*. 2015. Accessed 27 July 2017. http://www.unescap.org/sites/default/files/WWF_CaseStudies_final.pdf.

Very extensive report that focuses on individual success cases in Asia and the Pacific regarding water and sanitation. Specific policies different governments have taken are also explicitly stated.

"Water Futures and Solutions: Asia 2050." *International Institute for Applied Systems Analysis*. Accessed 24 May 2017. http://pure.iiasa.ac.at/14476/.

This report discusses the Water Futures and Solutions project initiative to improve human livelihood through improved measures of water security. It proposes, assesses, and evaluates possible initiatives on the issue.

"Water Security and the Global Water Agenda: A UN-Water Analytical Brief." *United Nations Institute for Water, Environment, and Health,* (2013): i-37. Accessed 25 May 2017. http://www.unwater.org/downloads/watersecurity_analyticalbrief.pdf.
This analytical brief covers the Global Water Agenda adopted by the United Nations and implemented by individual states and regional bodies according to involvement in sub-aspects of the issue of water security.

TOPIC B

A/HRC/17/27. "Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression. Frank La Rue." 16 May 2011. Accessed 13 August 2017. http://www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.27_en.pdf.
The Report of the Special Rapporteur explores the trends and challenges faced people in utilizing the internet as a source of freedom of speech and source of information. It highlights the ability of the internet to act as a platform to progress the development of countries. The report further discusses limitations that may be placed upon internet access under certain circumstances. This report by the Special Rapporteur of the Human Rights Council is vital for delegates to understand how the UN perceives the right to internet access.

A/HRC/32/L.20. "The promotion. protection and enjoyment of human rights on the Internet." 27 June 2016. Accessed 13 August 2017. https://www.article19.org/data/files/Internet_Statement_Adopted.pdf.
The resolution asserts the importance of assuring people the same rights they have offline are given online. It also seeks to promote the protection of said rights and emphasizes the need to encourage the use of internet for the development of countries and their people. It also addresses the need of countries to promote digital literacy. Overall, delegates can use this resolution as a reference for the promotion of internet access as an important human right.

"Action Plan to Close the Digital Gender Gap." *International Telecommunications Union.* Accessed 13 August 2017. https://www.itu.int/en/action/gender-equality/Documents/ActionPlan.pdf.
This action plan calls for actions that accelerate the inclusion of all people in internet connectivity. It focuses on methods to close the digital gender gap and utilize internet connectivity to empower women. It also emphasizes the importance of addressing the threats online that hinder the inclusion of women online. Even though this mainly discusses closing the digital divide in terms of gender, it is a useful source of information for delegates regarding equal access to internet across the board.

E/ESCAP/CICTSTI(1)/2. "Master Plan for the Asia-Pacific Information Superhighway." 5 September 2016. Accessed 29 August 2017. https://www.unescap.org/sites/default/files/pre-ods/CICTSTI1_2E_rev1.pdf.
This resolution passed by the United Nations Economic and Social Council for the Asia and the Pacific discusses the master plan to enable the Asia-Pacific Information Superhighway. This is the utmost effort taken by the UN body to address the growing digital divide. It highlights many of the factors both leading to the need for this and also those involved in its successful implementation. It is important for delegates to understand the efforts taken by the UN to already address this issue and its components.

"State of ICT in Asia and the Pacific 2016." *UNESCAP.* Accessed 24 May 2017. http://www.unescap.org/sites/default/files/State%20of%20ICT%20in%20Asia%20and%20the%20Pacific%202016.pdf.

This report by the UNESCAP highlights the growing digital divide by indicating the significant difference in the level of development in internet connectivity between developing and developed economies of the Asia-Pacific region. It also notes the role Information Communication Technology plays in the many components of a country's society and economy. It seeks to bring attention to the digital trends and needs of the region. Delegates will be able to utilize this report to understand the growing digital divide and how ICT and internet connectivity play a role in achieving the SDGs.

"The Internet and Sustainable Development." *Internet Society*. Last modified 5 June 2015. https://www.internetsociety.org/resources/doc/2015/the-internet-and-sustainable-development/.

This addresses the role of internet in achieving the Sustainable Development Goals, one of the key goals of UNESCAP in the Asia-Pacific region. It talks about how the internet is transforming the way governments, businesses, and people address development challenges. Because the Sustainable Development Goals are central to the actions taken by UNESCAP to better the region, delegates will find this especially useful as a reason we need to close the digital divide.

"Value of connectivity Economic and social benefits of expanding Internet access." *Deloitte LLP,* (2014): 1-54. Accessed 13 August 2017. https://www2.deloitte.com/content/dam/Deloitte/br/Documents/technology-media-telecommunications/ValorConectividade.pdf.

This is a very thorough report compiled by Deloitte about the economic and social benefits of internet connectivity. It is important to understand the many utilities internet has to offer and why it plays such a big role in the development of countries. Internet is crucial to economic growth and promotes international trade. It also promotes social inclusion. Delegates will gain a better understanding of the internet through this report.

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This is a historical document focused on the region of Asia and the Pacific.

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This webpage is a short historical summary of the United Nations Economic and Social Commission for Asia and the Pacific.

I E/ESCAP/RES/71/1. "Restructuring the conference structure of the Commission to be fit for the evolving post-2015 development agenda." 2 June 2015. Accessed 24 May 2017. http://www.unescap.org/sites/default/files/E71_RES1E.pdf.
This resolution is the adoption of the restructured Commission with an updated mandate.

TOPIC A

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"About ESCAP." *United Nations Economic and Social Commission for Asia and the Pacific*. Accessed 7 July 2017. http://www.unescap.org/about.
This website is an overview of UNESCAP and its reach across many issues.

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UNICEF describes current WASH initiatives in Asia and the Pacific.

"Asia-Pacific Sustainable Development Goals Outlook." *UNESCAP* (2017): 1-150. Accessed 26 July 2017. http://www.unescap.org/sites/default/files/publications/ap-susdev-outlook-full.pdf.
This is a forward-looking report on the viability and implementation of Sustainable Development Goals in Asia and the Pacific.

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This website discusses poverty and its statistics from the perspective of Sustainable Development Goals.

"Goal 1: Eradicate Extreme Poverty and Hunger." *United Nations*. Accessed 17 August 2017. http://www.un.org/millenniumgoals/environ.shtml.
This United Nations source describes one of the Sustainable Development Goals.

"Goal 7: Ensure Environmental Sustainability." *United Nations*. Accessed 17 August 2017. http://www.un.org/millenniumgoals/environ.shtml.
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A United Nations Educational, Scientific, and Cultural Organization source that talks about hydrology and the specifics of water security.

"Integrated Resource Management in Asian Cities: The Urban Nexus." *United Nations ESCAP*. Accessed 5 September 2017. http://www.unescap.org/urban-nexus.
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"WASH Strategy." *The United Nations Children's Fund*. Last modified December 2016. https://www.unicef.org/wash/3942_91538.html.
This has the United Nations Children's Fund description of the WASH strategy.

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"Asian Water Development Outlook 2013." *Asian Development Bank* (2013): 1-109. Accessed 24 August. https://www.adb.org/sites/default/files/publication/30190/asian-water-development-outlook-2013.pdf.
This is a previous report to the Asian Water Development Outlook of 2016 which helps to explain trends between then and 2016.

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This website covers Asia's irrigation challenges and Asian Development Bank's support to irrigation.

"Irrigation Efficiency Key to Meeting Asia's Growing Food Demands." *Asian Development Bank*. Last modified 20 January 2016. https://www.adb.org/news/features/irrigation-efficiency-key-meeting-asia-s-growing-food-demands.
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TOPIC B

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