



IBRD

International Bank for Reconstruction and Development

BACKGROUND GUIDE



Secretary-General
Vijittra Puckdee

Director-General
Althea Turley

Chiefs of Staff
Alex Burr
Walker Heintz

Delegate Experience
Luis González
Merve Karakas

Domestic Partnerships
Maura Goss
Odion Ovbiagele

Global Partnerships
Renata Koch
Salmaan Rashiq

Internal Affairs
Lia Lee
Natalie O'Dell

Under-Secretaries-General

Michael Beeli
Jill Bendlak
Rose Blackwell
Annica Denktas
Rahul Francis
Omar Mufti
Jonathan Packer
Akanksha Sancheti
John Wood
Alisa Wong

Dear Delegates,

It is my honor to welcome you to this year's International Bank for Reconstruction and Development committee here at NHSMUN 2020! My name is Samantha Diaz and I am thrilled to serve as your Session 1 Director this year. It is my pleasure to present you the background guide for our two topics: "Fossil Fuel Management in Iraq" and "Neglected Tropical Diseases in India." More often than not, delegates overlook the economic significance of problems societies face on a daily basis. My co-director, Sarah, and I have worked tirelessly to ensure that, you as delegates, will have a unique committee experience and simulation you will cherish with you beyond your time at NHSMUN. We hope your experience in this committee will teach you more about global economics as well as the role of significant financial institutions such as IBRD.

A little bit about myself: I live in a small town in northern New Jersey about ten minutes away from New York City! I am currently a third-year student at The American University (AU) in Washington D.C. where I am a double major studying international studies and international economics, specializing in the international political economy, trade and economic development. At AU, I am a senior staff member for the University's Model G20 Summit and a staff writer for AU's undergraduate policy magazine called "The World Mind." At The World Mind, I specialize in writing about economic development in Latin America, global economic events and the financial markets of Europe. This is my second year staffing NHSMUN, as I was the Assistant Director to the World Bank Committee last year. Overall, my simulation experience stretches from UN committees and crisis, G20 tracks, the World Bank, and committees in the League of Arab States.

While preparing for this committee, I challenge you all to look at these topics through a different perspective and attempt to immerse yourself in the economics of both topics. With both topics having developmental significance and effects, it is important to remember the purpose of this international institution is to use economics as a tool of international developmental. As an economic enthusiast myself, I hope your research and preparation for this committee will allow you to appreciate and understand economics a little bit more as well as learn more about financial institutions such as the IBRD. If you have any questions, please feel free to reach out to both Sarah and me. We are a resource for you whether it is help with finding sources or anything that may come up in the research journey.

I look forward to seeing all of you and the innovating creative ideas you will bring to the floor. See you in committee!

Samantha Diaz

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International Bank for Reconstruction and Development

Session I



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Dear Delegates,

Welcome to NHSMUN 2020. My name is Sarah Han, and it is my pleasure to be your Director for the International Bank for Reconstruction and Development committee. After months of extensive research, both Samantha and I hope you will enjoy reading about the two topics we have chosen this year. Through “Fossil Fuel Management in Iraq”, the guide explores the economic impacts of a country dependent on a volatile natural resource. “Neglected Tropical Diseases in India,” is a comprehensive report on everything ranging from the epidemiology of these diseases to the layout of the entire public health situation in India. Economics lies at the heart of many, many political issues in our world today, and we are very glad that you have chosen this committee; it is our hope that the knowledge you gain during this conference will prove extremely valuable for you in the future. Most importantly, we hope that your experience in this distinctive committee will inspire you to learn more about economics.

Let me introduce myself quickly. I am a second-year student studying a double major in physics and actuarial science at the University of Toronto (in Canada!). A lot of people I've encountered have never heard of actuarial science before, which is a combination of statistics and computer programming used to model raw data and make predictions on anything from the stock market to the life expectancy of the average American. As for my background in MUN, I have been participating in conferences both as a part of the staff and as a delegate for five years. My experience ranges from big GAs like SOCHUM to specialized crisis committees. Previously, I served as the Assistant Director of the World Bank, and I loved the experience so much I returned this year to serve as the Director of the IBRD. In my spare time, I love to go on long hikes by the ocean, play soccer, and try to follow baking videos without burning my house down.

The IBRD is unlike any traditional MUN committee. In the past, I was told as a delegate to disregard economic costs when writing solutions on working papers. Now, the onus is on you, delegates, to prove the exact opposite—why the economics of your loan proposal will *be* the solution to the problem. For the first topic, the economics is immediately clear, but I ask you to consider, during your research, how to profit off of Iraq's fossil fuel in a way that is sustainable and enriches the human capital of the country. For the second topic, I would suggest to first learn as much as you can about macroeconomics - economic growth is the key to this topic. It's easy to offer temporary solutions to many of these neglected tropical diseases, but much more difficult to solve the underlying crisis that is India's public health. The solution we are looking for is a detailed, pragmatic plan on where and how to allocate funds so that the entire health industry comes to life. To echo what Samantha has already said, please feel free to reach out to either of us during your research process!

Best of luck on your research and I cannot wait to work with all of you in committee!

Sarah Han

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International Bank for Reconstruction and Development

Session II



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A Note on the NHSMUN Difference

Esteemed Faculty and Delegates,

Welcome to NHSMUN 2020! My name is Althea Turley and I am this year's Director-General. Thank you for choosing to attend NHSMUN, the world's largest Model United Nations conference for secondary school students. We are thrilled to welcome you to New York City in March!

As 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 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 idea permeates throughout NHSMUN.

Debate founded on strong knowledge: With knowledgeable staff members and delegates from over 70 countries, NHSMUN can facilitate an enriching experience reliant on substantively rigorous debate. To ensure this high quality of debate, our staff members produce extremely detailed and comprehensive topic overviews (like the one below) to prepare delegates for the complexities and nuances inherent in global issues. This process takes over six months, during which the Directors who lead our committees develop their topics with the valuable input of expert contributors. Because these topics are always changing and evolving, NHSMUN also produces update papers that are intended to bridge the gap of time 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 delve further into their topics.

Extremely prepared and engaged staff: The detailed knowledge that our directors provide in this background guide through diligent research is aimed at spurring critical thought within delegates at NHSMUN. Prior to the conference, our Directors and Assistant Directors are trained rigorously through copious hours of both virtual and in-person exercises and workshops in an effort to provide the best conference experience possible. Beyond this, our Directors and Assistant Directors read every position paper submitted to NHSMUN and provide thoughtful insight on those submitted by the feedback deadline. Our staff aims not only to tailor the committee experience to delegates' reflections and research but also to facilitate an environment where all delegates' thoughts can be heard.

Emphasis on participation: The UN relies on the voices of all of its Member States to create resolutions most likely to make a dramatic impact on the world. That is our philosophy at NHSMUN too. We believe that in order to properly delve into an issue and produce fruitful debate, it is crucial to focus the entire energy and attention of the room on the topic at hand. Our Rules of Procedure and our staff are focused on making every voice in the committee heard, regardless of each delegate's country assignment or skill level. However, unlike many other conferences, we also emphasize delegate participation after the conference. MUN delegates are well researched and aware of the UN's priorities and they can serve as the vanguard for action on the Sustainable Development Goals (SDGs). Therefore, we are proud to also connect students with other action-oriented organizations at the conference to encourage further work on the topics.

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-technology 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 to communicate with members of Senior Staff and for other 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. More importantly, we seek to develop an environment in which delegates can employ their critical thought processes and share ideas with their counterparts from around the world. We always prioritize a dedication to teamwork and encourage our delegates to engage with others in a diplomatic and inclusive manner. In particular, our daises look for and promote constructive leadership that strives towards consensus, as delegates do in the United Nations.

Realism and accuracy: Although a perfect simulation of the UN is never possible, we believe that one of the core educational responsibilities of MUN conferences is to educate students about how the UN System works. Each NHSMUN committee is a simulation of a real deliberative body so that delegates can research what their country has actually said in the committee. Our topics are chosen from the issues currently on the agenda of that committee (except historical committees, which take topics from the appropriate time period). This creates incredible opportunities for our delegates to do first-hand research by reading the actual statements their country has made and the resolutions they have supported. We also incorporate real UN and NGO experts into each committee through our committee speakers program and arrange for meetings between students and the actual UN Permanent Mission of the country they are representing. No other conference goes so far to deeply immerse students into the UN System.

As always, I welcome any questions or concerns about the substantive program at NHSMUN 2020 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. NHSMUN is an incredible time to learn, grow, and embrace new opportunities. I look forward to seeing you work both as students and global citizens at the conference.

Best,

Althea Turley
Director-General

A Note on Research and Preparation

Delegate research and preparation is a critical element of attending NHSMUN and enjoying the conference's intellectual and cosmopolitan perspective. We have provided this Background Guide to introduce the topics that will be discussed in your committee. This document is designed to give you a description of the committee's mandate and the topics on its agenda. We do not intend to represent exhaustive research on every facet of the topics. We encourage and expect each of you to critically explore the selected topics and be able to identify and analyze their intricacies upon arrival to NHSMUN in March. Delegates must be prepared to intelligently utilize your knowledge and apply it to your country's unique policy.

The task of preparing for the conference can be challenging, but to assist delegates, we have updated our Beginner Delegate Guide and Advanced Delegate Guide. In particular, these guides contain more detailed instructions on how to prepare a position paper and excellent sources that delegates can use for research. Use these resources to your advantage—they can help transform 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 a given 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. In delegations with two students, we strongly encourage each student to participate in the research for both topics, to ensure that both students are prepared to debate no matter what topic is selected first. More information about how to write and format position papers can be found in the NHSMUN Research Guide. To summarize, 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 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 2020 and should articulate the policies you will espouse at the conference.

Each delegation is responsible for sending a copy of its papers to their committee Directors via [myDais](#) on or before **14 February 2020**. If a delegate wishes to receive detailed feedback from the committee's dais, a position must be submitted on or before **24 January 2020**. The papers received by this earlier deadline will be reviewed by the dais of each committee and returned prior to your arrival at the conference.

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 us at info@imuna.org as soon as possible.

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

Committee History

Since the founding of the institution in 1944, the International Bank for Reconstruction and Development (IBRD) has been an international development cooperative aimed to provide financial instruments to middle-income nations.¹ The IBRD eventually merged with the newly created International Development Association (IDA) in 1960, forming the World Bank Group.² The role of the IBRD within the World Bank Group is to approve and service financial projects that reduce poverty and aid sustainable development in middle-income countries and creditworthy low-income countries.³ In contrast, the IDA's focus resides in reducing poverty by providing loans & grants for programs that increase economic growth in lower-income countries.⁴

The IBRD was established in 1944 through as part of the agreement of the Bretton Woods Conference.⁵ The initial purpose of the bank was to aid the financial burden of reconstructing post-war Europe, however, only 28 countries initially ratified the agreement.⁶ Originally the Bank provided financial resources for the reconstruction of member countries, with a particular focus on public infrastructure.⁷ When the founding of International Finance Corporation (IFC) created a space for increasingly private affairs in 1956, it motivated the IBRD to change its mandate to refocus on to providing financial services to middle-income developing nations.⁸ Previously, IBRD aided middle and low income countries in the development within both the public and private sector; the IFC allowed for IBRD to focus more on the economic development of countries within the public sector.⁹ This change meant that projects and partnerships of IBRD would strictly pertain to sectors of the economy which are either fully controlled or owned by the government. Subsequently, the establishment of the International Development Agency (IDA) in 1960 along with the onset of the International Centre for Settlement of Investment Disputes and the Multilateral Investment Guarantee Agency allowed the IBRD to effectively transition to this new mandate.¹⁰ As a result of the creation of different financial institutions, IBRD has a specific mandate is to offer economic policy advice and offering financial products and policy recommendations to middle income countries.¹¹

Currently, IBRD has 189 member nations that support the bank's specific objectives of tackling global warming, eradicating poverty, and supporting sustainable economic growth.¹² Through financial products such as loans, investment project financing, development policy financing, trust funds and grants, IBRD is able to accelerate and optimize development projects in middle-income developing nations.¹³ Some of the bank's work includes fiscal management and infrastructure development in Kenya, establishing social protection reforms in Iraq, financing agricultural reforms in Peru, and broadening coverage and quality control of Tuberculosis in India.¹⁴ In addition to approving financing, representatives or members of the Bank additionally act as

1 "Who We Are: International Bank for Reconstruction and Development," *World Bank*, accessed 21 September 2019, <https://www.worldbank.org/en/who-we-are/ibrd>.

2 "History," *International Development Association - World Bank*, accessed 6 September 2019, <http://ida.worldbank.org/about/history>.

3 Ibid.

4 "What Is IDA?" *International Development Association - World Bank*, accessed 12 September 2019, <http://ida.worldbank.org/about/what-is-ida>.

5 United States of America, "Proceedings and Documents of the United Nations Monetary and Financial Conference, Bretton Woods, New Hampshire, July 1-22, 1944" Volume I (n.d.): 1135

6 Ibid.

7 "History," *World Bank*, accessed September 21, 2019. <https://www.worldbank.org/en/about/history>.

8 Ibid.

9 "The International Finance Corporation's Approach to Engaging Clients for Increased Development Impact," *Independent Evaluation Group - World Bank Group*, accessed 30 October 2019, <https://ieg.worldbankgroup.org/evaluations/ifc-client-engagemen>

10 Ibid.

11 Will Kenton, "International Bank for Reconstruction and Development (IBRD)," *Investopedia*, last modified 16 May 2019, <https://www.investopedia.com/terms/i/international-bank-of-reconstruction-and-development.asp>

12 "International Bank for Reconstruction and Development," *The Columbia Encyclopedia*, last modified 21 September 2019, <https://www.encyclopedia.com/reference/encyclopedias-almanacs-transcripts-and-maps/international-bank-reconstruction-and-development>.

13 "Products and Services," *World Bank*, accessed 21 September 2019, <https://projects-beta.worldbank.org/en/projects-operations/products-and-services>.

14 "IBRD Activities and Achievements," *World Bank*, accessed 21 September 2019, <https://www.worldbank.org/en/who-we-are/ibrd/impact>; Program Towards Elimination of Tuberculosis," *World Bank*, accessed September 21, 2019, <https://projects-beta.worldbank.org/en/projects-operations/project-detail/P167523>.

consultants or advisors to projects in order to ensure financial projects are being ethically executed and money is being properly distributed to the designated regions. The bank is managed by a Board of Governors, the different ministers which make up this body are responsible for representing a number of countries, and typically delegate their numerous responsibilities downward.¹⁵

The Bank executes its mission to alleviate global poverty and promote economic development through the distribution of financial services, primarily in the form of loans.¹⁶ These detailed loans specify where specific amounts of money are allocated to improve access to basic services in local communities, augment short-term employment, and build long-term sustainability, as done through the Iraq Social Fund for Development, which prioritizes building local capacity and developing human capital.¹⁷ Internally, loans can consist of different financial services which the Bank offers in order to aid countries within specific sectors of the economy. Nearly every IBRD loan comes with an interest rate, which is determined through a country's letter rating, which corresponds to its financial status and repayment history.¹⁸ For example, Iraq has a current A maturity premium, allowing it a 0.95% interest rate for a 10–12 year loan.¹⁹

Projects are financed through the IBRD's investments in the international market.²⁰ Since 1959, it has maintained a AAA credit rating, allowing it to borrow at a low cost and offer this money to the middle-income countries that it services.²¹ On average, the IBRD provided 169.9 million USD per operation in FY 2016–2017.²² The IBRD lent 22.6 billion USD to 133 different commitments in the same fiscal year.²³ These loans generally focus on financing infrastructure and other economic expansion projects, eschewing development projects such as education to the IDA.²⁴

When a country identifies a need for an external investment and have developed a loan distribution plan, they have the ability to request a loan from the institution; therefore, the bank now initiates a new project for the respective state.²⁵ Just like any financial institution, the bank will undergo meticulous analysis of the project in order to approve the proposal. IBRD experts begin the revision process by creating inquiries to the borrowing country like whether or not the project will benefit the state's economy, would the country be able to maintain the project once funds have been depleted, and many more inquiries.²⁶ Recent projects or loans from the Bank have taken form under the World Bank's Human Capital Project: an overarching theme which has refocused economic development to prioritize maximizing the value of citizens' productivity, health, and education.²⁷

Once an agreement has been reached between the two parties, the IBRD distributes the loan amount in installments, and advertently monitors the progress and use of funds.²⁸ In addition to the creation of a repayment schedule, the bank establishes an interest rate, interest period, and a front-end fee.²⁹

15 "Who We Are: International Bank for Reconstruction and Development."

16 Ibid.

17 "Iraq Social Fund for Development," *World Bank*, accessed 28 September 2019, <https://projects.worldbank.org/en/projects-operations/project-detail/P163108>.

18 "Lending Rates & Fees," *World Bank*, accessed 28 September 2019, <https://www.worldbank.org/en/about/unit/treasury/ibrd-financial-products/lending-rates-and-fees>.

19 Ibid.

20 "International Bank for Reconstruction and Development," *World Bank*, accessed September 21, 2019, <https://www.worldbank.org/en/who-we-are/ibrd>.

21 Ibid.

22 World Bank, *The World Bank annual report 2017 : end extreme poverty, boost shared prosperity : Main report (English)*, accessed 30 October 2019, <http://documents.worldbank.org/curated/en/132951507537966126/Main-report>.

23 Ibid.

24 Kenton, "International Bank of Reconstruction and Development (IBRD)."

25 "Getting to Know the World Bank," *World Bank*, last modified 26 July 2012, https://www.worldbank.org/en/news/feature/2012/07/26/getting_to_know_theworldbank.

26 Ibid.

27 "Human Capital Project: A Project for the World," *World Bank*, accessed 30 October 2019, <https://www.worldbank.org/en/publication/human-capital>.

28 Ibid.

29 "General Conditions for IBRD Financing: Program for Results," *World Bank*, last modified 7 2019, <https://policies.worldbank.org/sites/ppf3/PPFDocuments/c76a3e32377c4bb88bf817c612931511.pdf>.

Simulation

The International Bank for Reconstruction and Development (IBRD) is an international financial organization and economic development cooperative. An organization of the World Bank Group, the IBRD is not a United Nations body, but rather a global cooperative of 189 countries whose stake in the organization is a function of countries' capital subscriptions, or financial commitments to the IBRD. Since voting powers are proportional to capital shares, delegates will all exercise equal representation and standing in committee discussions but will need to plan strategically to secure enough votes from key stakeholder countries to pass loan proposals. Loan proposals are one of the most significant differences in the IBRD's format in comparison to standard committees, as they are the final documents delegates will produce during the conference, rather than resolutions.

Delegates will be acting as their respective country's governor of the IBRD's Board of Governors, which collectively has control over all bank operations, including the power to propose, develop, and approve loan agreements. Substantively, the IBRD exists to support the World Bank's mission of ending extreme poverty and promoting inclusive, sustainable prosperity worldwide. To achieve these goals, the IBRD utilizes financial contributions from its member states to finance development projects worldwide on a country-by-country basis. The bank's most common methods are providing development-based loans and advisory services specifically to middle-income and creditworthy low-income countries. Another World Bank Group organization, the International Development Association, works specifically with lower-income countries.

In this committee simulation, delegates will receive a loan request from the country in question with a general development strategy and a general range of requested financing. As the board of governors, delegates will review the loan request, discuss its strengths and weaknesses in the context of their knowledge and country policies, and agree upon a final loan proposal that meets the requesting country's development objectives and credibly guarantees full and timely repayment to the bank; this is accomplished through targeted investments, prioritizing returns on investments, and the attachment of conditions to the loan. States requesting loans will not be present in committee, however, the dais will periodically communicate information on behalf of the requesting country.

It is important for delegates to remember that the IBRD is simultaneously a financial and development organization—its mandate of poverty reduction and its operations as a bank cannot be disentangled. It is the role of delegates to identify and support the most promising development opportunities in the respective country they are considering and to take all necessary steps to ensure successful implementation and repayment of the loan. Since the IBRD grants loans at its own discretion, delegates have the ability to attach the conditions to loans, ranging from specific uses of subsets of financing to general requirements to accompany approval of the loan.

The IBRD committee is an economic simulation, where delegates are called on to make the greatest impact with limited resources. The challenge for delegates is not to eliminate poverty in the requesting country—rather the committee calls for delegates to convincingly demonstrate the economic feasibility of their loan proposals and assure the committee that their strategy ensures full and proper repayment of the loan.

Committee Procedures

The following section will detail the differences between committee procedures in the IBRD and standard procedures in other NHSMUN committees.

Setting the Agenda

The process of setting the agenda will be the same as in other committees and will be subject to a simple majority vote. However,

the agenda item that the committee is debating at any given time will dictate what types of loan proposals will be considered by the committee at any time. All loan proposals submitted to the dais must be related to the topic being considered.

Voting Procedure

On all procedural votes including points, motions, etc. standard NHSMUN procedure of one country, one vote, will continue to apply. When voting procedure begins, each proposed amendment to the loan proposals will be voted on individually in the order in which it was submitted. Only final, substantive voting on loan proposals will operate differently, based on each country's financial shares in the IBRD. After the votes are counted, the number of shares that correspond to each voting option will determine the voting outcome. The strategy of winning votes from countries with the largest voting shares is a key component of the IBRD committee simulation that delegates are encouraged to prioritize seriously.

Components of a Loan Proposal

- I. Executive Summary:
- II. Total Amount of Loan
- III. Proposed Project and Details
 - A. Disbursement Period 1, Amount of funding, in USD:
 1. Sub-initiative: Amount of funding, in USD,
 - a. Strategic Focus and Implementation
 - b. Return on Investment Projections
 - c. Conditionality: Exceptions, notions, etc.
 2. Sub-initiative: Amount of funding, in USD,
 - a. Strategic Focus and Implementation
 - b. Return on Investment Projections
 - c. Conditionality: Exceptions, notions, etc.
 - B. Disbursement Period 2, Amount of funding, in USD:
 1. Sub-initiatives, as before

IV. Disbursement Schedule

Allocations	Dollar amount allocated (in USD)
1) Disbursement Period 1	
2) Disbursement Period 2	
3) Disbursement Period 3	
4) Disbursement Period 4	

5) Front-end fee	
6) Total amount	

V. Repayment Schedule

- A. Maturation Period (in years)
- B. Grace Period (in years)
- C. Interest Rate (in percent)

VI. General Conditions

- A. Condition 1
- B. Condition 2 (and so on...)

The executive summary should provide a brief context for the country, its development challenges, and the strategy of the loan proposal's sub-initiatives. It should highlight the specific areas where investment is likely to create the greatest impact and bring the highest financial returns to the target country. Additionally, the section should generally overview the feasibility of the loan proposal, objectively evaluate the country's ability to repay its loan within the given period and identify what specific channels the country can look to for the necessary revenue. Vague statements that promise loan repayments are insufficient in this section, for example, "Burkina Faso is certain that Iraq it will be able to repay this loan," does not affirm the project's credibility. Statements about the country's history of loan repayment or default and other reliable information will bolster the integrity of the proposal.

The "proposed project and details" section should be the longest section by far, separated by disbursement periods as determined by the committee. Times between disbursement periods can range from months to years and are useful instruments when one portion of the loan proposal builds on another. The strategic focus and implementation section should describe the specific actions the bank and country will take to carry out an investment, and what steps the two will take to ensure the successful operation of the investment. The "return on investment projections" section should specifically detail how the amount of funding requested will benefit the country or sector, and how exactly those benefits can be translated into returns that the country can easily repay to the bank within the maturation period. Finally, the "conditionality" section is where delegates will specify how exactly the funding must be used, and if the receiving country must take specific actions or meet specific benchmarks in order to receive the funding. The purpose of these conditions is typically to ensure effective implementation and credible repayment of the loan.

The total amount of funding should include a total sum of the funds listed in the "proposed project and details section," which is closely tied to the repayment schedule. This section will detail the logistical information of the loan itself, specifically the maturation period, grace period, and interest rate. The maturation period is the total time in which the loan must be repaid. The grace period is the amount of time the borrowing country can delay repayment if necessary. Finally, the interest rate is the annual continuously compounded rate of interest accrued by the borrowing country.



IBRD

NHSMUN 2020



TOPIC A: FOSSIL FUEL MANAGEMENT IN IRAQ

Photo Credit: Arne Hückelheim

Loan Request

Iraq seeks a loan proposal in order to promote more sustainable fossil fuel management. Under the overarching theme of sustainable management of fossil fuels, the Republic of Iraq is requesting loans that will encompass and address the different ways unsustainable management affects both Iraq's citizens and economy. As a whole, this loan will give Iraq the foundational aid to further grow the economy after the crisis of Iraq and prove particularly central in launching a new economic direction for the country into the future. Iraq is requesting a large scale, comprehensive loan of approximately **USD 950–1,350 million** from the IBRD aimed at maximizing current benefits of its fossil fuel sector, investing in its people, and developing new industries to reduce vulnerability to shocks and other management problems. The loan request is by no means restrictive to the Bank's final drafting of the eventual loan proposal. However, delegates should look to it as a general blueprint of Iraq's funding requests. Within this loan proposal, Iraq requests for the following aspects to be considered:

I. Approximate Total Request **USD 950–1,350 million**

II. Human Capital Development: General estimate request of between **USD 200–275 million**

A. Sub-initiatives to develop a comprehensive plan to improve national teaching outcomes

B. Sub-initiatives which will stimulate Iraq's labor market by different means or investments which will:

1. Increase labor participation in the country as a whole, specifically targeted at the low employment participation rate of women and youth population¹

2. Decrease the large percentage of unemployed due to different economic or cyclical situations

C. Sub-initiatives in the form of targeted investments aimed at expanding general primary and secondary school education access

D. Sub-initiatives or Investments which will promote overall education in Iraq. These investments will specifically target:

1. The lack of infrastructure of educational

buildings and materials in order for students to be able to receive an education. Forms of public infrastructure such as roads and sidewalks also be acknowledged as a significant factor which impacts the accessibility of education different geographical areas²

2. Ensuring education is equitable and gives individuals the opportunity to continue their education beyond the compulsory years

E. Sub-initiatives expanding Iraq's higher and technical education network

1. Avenues specifically focused on affordable training and education for national petroleum engineers and related industrial careers

2. Promoting entrance into diverse, growing sectors of the economy

III. Fossil Fuel Management Improvements: General estimate request of **USD 325–475 million**

A. Sub-initiatives promoting efficient and sustainable management internally within national fos-

¹ Ramona-Elena Irmia and Marc Gottschling, "Taxonomic Revision of *Rocheortia* Sw. (Ehretiaceae, Boraginales)," *Biodiversity Data Journal* 4 (June 2016).. <https://doi.org/10.3897/BDJ.4.e7720>.

² "Education," *United Nations Children's Fund*, accessed 29 October 2019, <https://www.unicef.org/iraq/what-we-do/education>.

- oil fuel producers
- B. Sub-initiatives attracting and maximizing the benefits of foreign direct investments in the fossil fuel sector
- C. Sub-initiatives which will mitigate environment externalities that arise through oil production by:
 1. Addressing different ways oil spills could be avoided and possible sustainable production techniques. Through this, it will also promote the preservation of ocean life which could be affected by oil spills.
 2. Specifically addressing the decreasing or mitigation of gas flares and the externalities that arise outside of the oil fields.
- D. Sub-initiatives updating and replacing outdated capital and plant in the fossil fuel sector
- E. Sub-initiatives which will establish proper infrastructure to allow for sustainable storage and transportation of oil
 1. Increasing management and technical training of oil-producing and holding facilities. This training will also include the maintaining of any technical infrastructure which is significant to the production and selling of oil.
 2. Establishing infrastructure in different parts of the country to promote sustainable and long-term consumption of oil of national citizens.
- F. Sub-initiatives which promote the engagement of the community into the oil sector and market by:
 1. Addressing whether or not national oil should be accessible to citizens for production.
 2. Addressing the role specific communities have in the oil production process and how it could be improved upon.
 3. Giving financial advice or suggestion to improve upon revenue management and how surplus revenue can be used to different sectors of the economy
- G. Sub-initiatives that preserve and enhance Iraq's energy independence
- IV. Promoting Different Sectors of the Economy: General estimate request of **USD 425–600 million**
 - A. Sub-initiatives promoting investments of different sectors of the economy
 1. Addressing different sectors which aid in the contribution to Iraq's national GDP and how they could be further developed.
 2. Increasing the participation of underperforming sectors.
 3. Encouraging the further development of the private sector
 - B. Sub-initiatives which safeguard Iraq in case of economic shocks to the economy
 1. Specifically, different financial instruments which ensures Iraq has addition means of money in order to financial emergency-level events
 - C. Sub-initiatives emphasizing and facilitating continued export competitiveness in Iraq for the foreseeable future
 1. Prioritizing sustainable industrial investments
 2. Development of proper infrastructure to preserve and build export competitiveness

Strategic Focus

Iraq is one of several countries that is rich in natural resources such as fossil fuels.³ In today's society, fossil fuels can be seen in many commonly used goods and services. Whether it is through fueling different forms of transportation, machinery, or electricity, the use of fossil fuels can be seen in different forms on a daily basis. As a result of the high quantity of oil that is used by a large population of the world, countries that have an abundance of the resource can immensely benefit from different trade deals with different countries.⁴ However, there are several factors that make the oil market extremely dangerous and are subject to many changes. Currently, virtually all of the government's revenue relies on the success of the oil market.⁵ Due to the lack of the development of non-oil sectors, Iraq's overall economy is extremely susceptible to the different changes the oil market undergoes.

Within loan proposals presented to the Board of Directors, initiatives will promote sustainable management throughout different parts of the oil sector. These initiatives will fall under two different objectives, creating measures to protect the economy from any form of change in the oil market as well as those which will aid in the overall development of the general economy.⁶ Under these objectives, initiatives will encompass the different issues which cause Iraq's slow economic.⁷ Through the possible partnership between Iraq and the Bank, other financial institutions or countries, loan proposals should foster support for the overall development of Iraq's economy. Overall, loan proposals should give Iraq the necessary financial tools to operate their national oil sector to its fullest capacity. These will hopefully allow Iraq to better safeguard its economy against any possible change that occurs in the global

market. As the International Bank for Reconstruction and Development (IBRD) is a member of the World Bank Group, loan proposals should also reflect current efforts or institution wide efforts which are being led by the World Bank.⁸

Overall, the initiatives in loan proposals should be centered around the general development of Iraq's economy. Different forms of initiatives will give the financial assistance or advice to sustainably manage the oil sector. The benefits of the dual implementation of these initiatives are several. First, these initiatives will increase transparency between three key actors in the economy: the citizens, the government and private companies. By increasing transparency or the improvement of relationships will increase engagement across different communities which will boost the economy in one way.⁹ Second, these initiatives will create safeguards to ensure that Iraq is prepared for global economic shocks or impactful changes to the global oil market.

All loan proposals should keep in mind the current efforts made by the World Bank's "**Human Capital Project**." Under the two overarching objectives of the loan proposal, initiatives that promote the "Human Capital Project" can be created under the different factors that cause Iraq's economy to be deeply affected by the changes in the oil market. Initiatives that promote education, quality working conditions, and job creation are just some ways initiatives in loan proposals can help further promote the World Bank's project.¹⁰ Within each category different hypothetical initiatives can fall under, there are different ways in which the Human Capital Project can be incorporated. These specific initiatives will not only be beneficial to Iraq's overall economy but will increase the quality of life for Iraqis.

3 Daniel Workman, "Crude Oil Exports by Country," *World's Top Exports*, last modified 7 October 2019, <http://www.worldstopexports.com/worlds-top-oil-exports-country/>.

4 "The Benefits and the Curse of Oil," *The Economist*, last modified 4 August 2008, <https://www.economist.com/middle-east-and-africa/2008/08/14/the-benefits-and-the-curse-of-oil>.

5 "Iraq," *Economic Freedom Index*, accessed 29 October 2019, <https://www.heritage.org/index/country/iraq>.

6 "Mapping the Oil and Gas Industry to the Sustainable Development Goals: an Atlas," *International Petroleum Industry Environmental Conservation Group*, last modified 19 July 2017, http://www.ipieca.org/media/3093/mapping_oil_to_sdg_atlas_lr_2017.pdf.

7 Abbas Assair, Bahram Sahabi, Amir Hossein Mozayyeni, and Ahmad Rasouli, "The Effects of the Resource Curse Indices and Good Governance on Health Expenditures and Different Income Deciles," *Mediterranean Journal of Social Sciences* 7, No. 4 (August 2016): 203-213, <https://pdfs.semanticscholar.org/71aa/c4b8a662b0c178dd166d46170bd85ca5e4d2.pdf>.

8 "International Bank for Reconstruction and Development," *World Bank*, accessed 21 September 2019, <https://www.worldbank.org/en/who-we-are/ibrd>.

9 "Budgets: a guide to best practice in transparency, accountability, and civic engagement across the public sector," *Transparency and Accountability Initiative*, last modified 12 March 2017 <https://www.transparency-initiative.org/wp-content/uploads/2017/03/3-budgets1.pdf>.

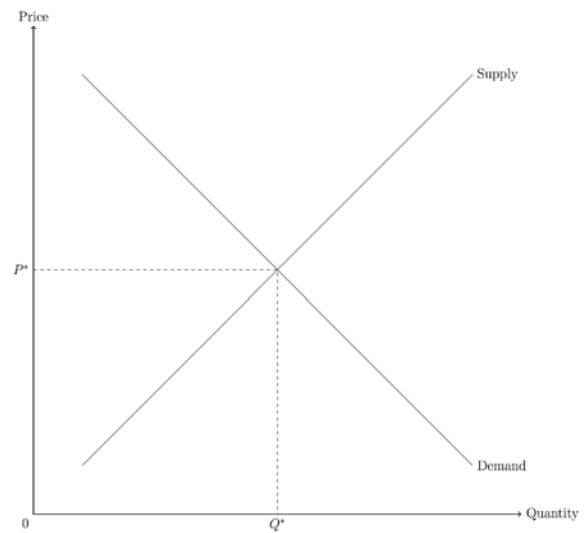
10 "About the Human Capital Project," *World Bank*, accessed 29 October 2019, <https://www.worldbank.org/en/publication/human-capital/brief/about-hcp>.

Another key project loan proposal should discuss is the United Nations Sustainable Development Goals (SDGs).¹¹ Originally created in 2015 after the completion of the Millennium Development Goals (MDG), the SDGs contain a similar message as the MDGs with the overall goal of increasing the general quality of life for individuals and the planet.¹² Under the SDGs, there are several specific goals in which loan proposals will be centered around. From increasing the quality of life for citizens to promoting sustainable economic growth, these goals will be span a variety of topics throughout debate.

The Development of the Current Oil Market

The price of oil is determined by the interaction of **demand** for oil by consumers, and its **supply** by producers—interactions that are virtually applicable to all goods. If more exists for sale on the market, then there is a downward pressure on prices because of reduced competition to buy the larger quantity. Thus, when the quantity of oil produced is relatively high, consumers will purchase it for a low price. When the quantity supplied is relatively low, competition from consumers places upward pressure on the price. Similarly, higher oil prices mean firms would like to supply, or sell, more, and consumers demand, or purchase, less.¹³ One component of oil's pricing in the global economy that is particularly unique, however, is its low **elasticity**, or sensitivity of consumers' demand for oil to changes in price.¹⁴ Despite the price fluctuations, the demand of fossil fuels is relatively inelastic, or insensitive to changes in price, due to the universal use of fossil fuels in the global economy.

Global demand for oil is about 100.6 million barrels daily.¹⁵ Despite the large quantity countries demand on a daily basis, the fossil fuel market is actually very unstable and susceptible to many changes in terms of price levels. The uncertainty of price levels in natural resources such as fossil fuels is called



A simplified graph depicting the relationship between supply and demand

volatility.¹⁶ There are two levels of price volatility: high and low; goods and markets are determined to have a high or low volatility through the degree to which prices change over short periods of time. Due to the high level of price volatility in fossil fuels, companies take certain measures to mitigate the effects of the changing oil price. Common practices include decreasing investments in capital projects as well as increasing the cost of risk management activities.¹⁷ The costs of these different surfaces affect the total price of oil per barrel.

Because fossil fuels are the primary source of revenue for Iraq, the country's overall economy is sensitive to change. The fluctuations in the price of fossil fuel causes Iraq's economy to be economically vulnerable to different changes within the price or market of fossil fuels, and there are both direct and indirect ways in which the fluctuating price of oil affect society. Directly, the changing prices affect goods which operate or are produced with some form of oil. The changing price of goods that go into the production of a specific commodity ultimately change the price of that good.¹⁸ Due to the factors

11 "Sustainable Development Goals," *United Nations*, accessed 29 October 2019, <https://sustainabledevelopment.un.org/?menu=1300>.

12 Ibid.

13 "What Is Price Volatility?" *United States Energy Information Administration*, accessed July 20, 2019, [https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2003/10_23/Volatility 10-22-03.htm](https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2003/10_23/Volatility%2010-22-03.htm).

14 Will Kenton, "Demand Elasticity," *Investopedia*, last modified 3 October 2019, <https://www.investopedia.com/terms/d/demand-elasticity.asp>.

15 "Daily Global Crude Oil Demand 2006-2019," *Statista*, accessed 20 July 2019, <https://www.statista.com/statistics/271823/daily-global-crude-oil-demand-since-2006>.

16 Ibid.

17 Ibid.

18 "What are the possible causes and consequences of higher oil prices on the overall economy," *Federal Reserve Bank of San Francisco*, last

mentioned above, as well as Iraq's dependence on exported oil, the country's economy is sensitive to any effects when there is a change in the price of oil. The impacts of the global changing price of oil on Iraq's economy can be reflected through the historical growth of the **real gross domestic product (Real GDP)**, the value of all goods and services produced in Iraq's economy.¹⁹ Iraq's political history and extended periods of conflict only intensified the impacts of changes to the global oil market.

In 1979, the global oil price experienced a drastic increase from USD 55.69 to USD 105.88 in one year.²⁰ When there is a surprise increase in the price of oil, states without proper financial institutions feel the burden of the change of prices even more. Firms benefit from high prices of oil and increase their production or supply of oil as a product of it. In 1979, Iraq increased the percentage of exports from 62.5% to 63.5%.²¹ This increase in exports affected their annual GDP, increasing from USD 37.8 billion to USD 53.4 billion.²² Iraq was able to have this large growth due to the high demand of oil in the world, and this increase in money generated could be used to expand federal budget to either increase wages, job opportunities, or finance public programming.

Unfortunately, this growth was short-lived as a result of the beginning of extreme political conflict in 1980. The result of this conflict was a significant decrease in the annual GDP. A year after the boost in the economy, Iraq faced a sudden GDP decline from USD 53.4 billion to USD 38.4 billion, lower than their pre-price increase GDP.²³ War or periods of political instability is an example of how economic booms can be reversed. In 1979 and 1980, there was a large increase in the global price of oil and, simultaneously, the beginning of the

Iraq-Iran war.²⁴

Price Controls and OPEC

Countries producing oil at different levels can destabilize the overall market in the same way that supply changes the price of oil. Because oil-exporting countries exercise control over different sectors of the global oil market, and consequently affect global prices, oil-exporting countries have worked together to control oil prices. The interaction and agreement between different countries that regulate the amount of oil that is produced to control prices are known as **cartels**.²⁵ When different countries act in the formation of cartels, they act as if they are a single producer.²⁶ When multiple countries rely on the oil market as a main source of government, controlling the oil market can be a positive effect for countries such as Iraq.

On a micro scale, cartels can be a positive thing for vulnerable economies. However, on a macro level, they aggregately raise prices for consumers. For example, cartels have the ability to set higher prices than average and limit the total product supply.²⁷ Overall, when countries are a part of cartels, they enjoy the highly concentrated benefits of their cartel, while the global community as a whole must pay higher prices.

The most famous example of a cartel is the Organization of Petroleum Exporting Countries (OPEC). Created in 1960, Iraq along with other countries such as Kuwait, Saudi Arabia, and Venezuela, created the intergovernmental organization to address the constant fluctuations of the price of oil.²⁸ As time passed, the organization expanded its priorities and opened its membership to other countries that produced oil in an ef-

modified November 2007, <https://www.frbsf.org/education/publications/doctor-econ/2007/november/oil-prices-impact-economy/>.

19 Jim Chappelaw, "Real Gross Domestic Product (GDP) Definition," *Investopedia*, last modified 23 October 2019, <https://www.investopedia.com/terms/r/realgdp.asp>.

20 "Crude Oil Prices - 70 Year Historical Chart," *MacroTrends*, accessed 20 July 2019, <https://www.macrotrends.net/1369/crude-oil-price-history-chart>.

21 "World Development Indicator," *World Bank*, accessed 29 October 2019, <https://datacatalog.worldbank.org/dataset/world-development-indicators>.

22 Ibid.

23 "GDP (current US\$)," *World Bank*, accessed 20 July 2019, <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=IQ>.

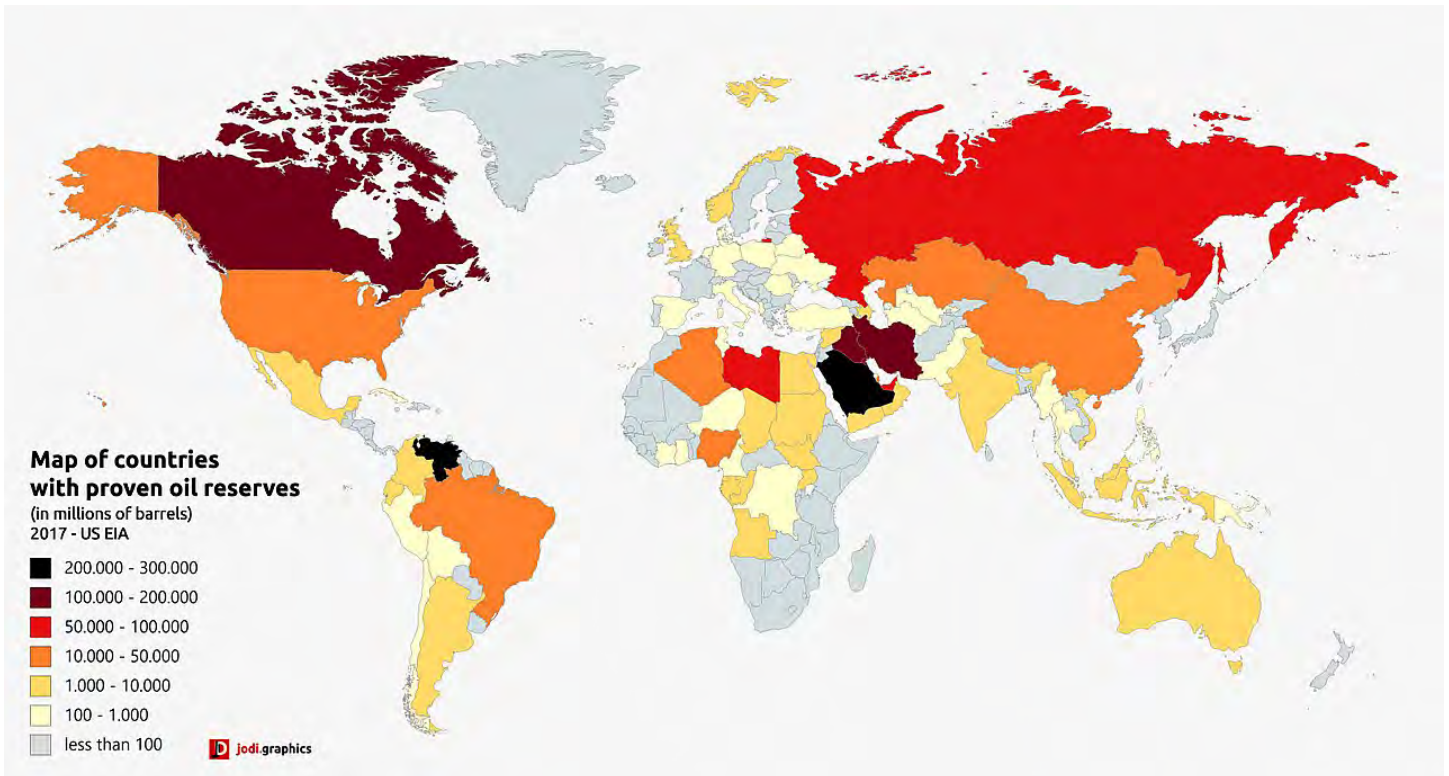
24 Mike Gallagher, "The 'beauty and the horror of the Iran -Iraq war,'" *BBC News*, last modified 26 September 2015, <https://www.bbc.com/news/magazine-34353349>.

25 James Chen, "Cartel," *Investopedia*, last modified 17 January 2018, <https://www.investopedia.com/terms/c/cartel.asp>.

26 Ibid.

27 "Cartels," *Economics Online*, accessed 20 July 2019, https://www.economicsonline.co.uk/Business_economics/Cartels.html.

28 Hasan M. Qabazard, Mario Fantini, and Michael Haderer, *I Need to Know: An Introduction to the Oil Industry and OPEC*, (Vienna: OPEC, 2013), accessed 29 October 2019, https://www.opec.org/opec_web/static_files_project/media/downloads/publications/ChildrenBook2013.pdf.



Infographic which indicates the oil reserves a country possesses

fort to stabilize the oil market. While the founding goal of addressing the fluctuation of oil price remains at the center of the organization, OPEC is currently positioning itself to maintain constant levels of output to ensure global price stability.²⁹ Because all OPEC countries, including Iraq, receive a significant portion of their revenue from the oil industry, even subtle decreases in price can lead to financial crises in their governments. Given **OPEC** member states' heavy reliance on oil in their economies, **OPEC** uses a number of methods to stabilize the oil market, such as the adoption of oil export quantity-related policies and quotas that oblige all member states alike.³⁰ **OPEC's** most powerful tool, however, is the **output quotas** it sets for each member state, allowing it to directly control much of the world's oil supply, and consequently prices.³¹

²⁹ Ibid.

³⁰ Ibid.

³¹ Adam Barone, "Government Imposed Quota Can Limit Imports and Exports," *Investopedia*, last modified 14 April 2019, <https://www.investopedia.com/terms/q/quota.asp>.

³² James Chen, "Organization Of Petroleum Exporting Countries (OPEC)," *Investopedia*, last modified 6 September 2019, <https://www.investopedia.com/terms/o/opec.asp>.

³³ Kimberly Amadeo, "OPEC and Its Goals, Members, and History: What are its top three goals?," *The Balance*, last modified 10 July 2019, <https://www.thebalance.com/what-is-opec-its-members-and-history-3305872>.

OPEC's Impact of Fossil Fuel Management in Iraq

For Iraq's national economy and oil sector, being a member of OPEC is dominant. Since the organization has 82% of the world's oil production, Iraq being a member of OPEC allows them to have a large influence over the global market in comparison to countries who are not a part of OPEC.³² For example, a recent goal of OPEC is to increase the price of oil to USD 70–80 per barrel.³³ Iraq's export rates are maintained, increasing revenue for them. Some of the largest oil producing countries, such as The United States, Russia and China, are not a part of OPEC. While not being a member of OPEC may allow countries to dictate their oil sectors and production more freely, their influence and possible power on the global level is overshadowed by the fifteen countries who make up the organization. Iraq's OPEC membership and economic dependence on oil allows the state to try to prevent

any major shifts in the global oil market. OPEC's different stabilizing measures, such as output quota, can be seen as a guiding influence to ensure some form of stability in their national economy.

Iraq's membership does not necessarily have the same results as it did when the organization was first formed. As mentioned, the organization was created with the goal of stabilizing the volatile price of oil, a top priority for many countries—even Iraq. The collaboration between these states flourished into something more than countries cooperating for the sake of a stable oil market - due to geographical proximity amongst the founding members, the constant work flourished into what is known as **regional economic integration**.³⁴ Although regional economic integration is traditionally seen as a way for participating countries to either eliminate or reduce trade barriers, oil exporting states have regionally integrated beyond their oil markets. As a result of the similarities between countries, regional integration was not originally contested. Currently, however, political events and motives have merged and affected the global economy; Iraq is rethinking the benefits of regional economic integration. A significant factor that now has a large effect in the oil market and heightens regional tension is the division between full regional economic integration and individual country-interested policies. Despite agreeing to the organization's wide cut production of 1.2 million barrels per day, Iraq is currently planning to increase their production to 4.76 million barrels per day.³⁵ The massive disparity is contributing to increased tensions between Iraq and other member states due to its anticipated impact on global prices. Delegates will need to consider the global dynamics and effects of Iraq's development in the Fossil Fuel Market.

Nationalization of the Oil Sector

In Iraq, oil fields and companies are owned by different key actors in the global oil sector, namely foreign companies and the national government. Most forms of ownership in Iraq's oil fields are **Foreign Direct Investments (FDIs)**, which is when foreign companies hold at least a 10% stake in businesses overseas.³⁶ In emerging economies, FDIs can have positive benefits such as introducing new forms of technologies and resources, aid in the financing of possible human capital project, or long term partnerships.³⁷ Despite the possible value of these partnerships, Foreign Direct Investments can also bring a number of challenges to their host country, including foreign exploitation of resources, lack of recirculation to the host country's population, and questionable labor practices.³⁸

As a method to harness all possible benefits of a natural resource, countries like Iraq take part in **nationalization**.³⁹ Nationalization refers to when a national government takes control of a company or an industry, typically as a means of controlling revenue flows from that industry. For developing economies such as Iraq, nationalization is a protectionist measure intended to ensure the state realizes the benefits of its vast collection of fossil fuels. Fossil fuels are one of the most commonly nationalized resources – the oil industry is also nationalized in Saudi Arabia, Russia, China, and Venezuela.⁴⁰ While nationalizing resources and its companies can be beneficial, state ownership of large, dynamic firms that must compete with private entities can lead to a number of challenges—including poor management and corruption.⁴¹ For nationalization to prove successful, proper management and transparency between the domestic corporation, greater government, and the public are necessary.

34 Ibid.

35 Natasha Turak, "Iraq Could Be the next to Break Ranks with OPEC, Analyst Says," *CNBC*, last modified 11 December 2018, <https://www.cnbc.com/2018/12/04/iraq-could-be-the-next-to-quit-opec-after-qatar.html>.

36 Kimberly Amadeo, "Foreign Direct Investments: How FDI affects your life," *The Balance*, last modified 25 June 2019, <https://www.thebalance.com/foreign-direct-investment-fdi-pros-cons-and-importance-3306283>.

37 Ibid.

38 Ibid.

39 "Nationalisation," *Economics Online*, accessed 8 July 2019, https://www.economicsonline.co.uk/Business_economics/Nationalisation.html.

40 J. William Carpenter, "The World's Biggest State-Owned Oil Companies," *Investopedia*, last modified 9 Nov 2018, <https://www.investopedia.com/articles/investing/121715/worlds-biggest-state-owned-oil-companies.asp>.

41 Tina Rosenberg, "Can Hugo Chavez's 'oil socialism' show resource-rich countries the way to stability and prosperity? Or is it just the oil curse in a new guise," *The New York Times Magazine*, 4 November 2007, <https://www.amherst.edu/media/view/32085/original/PerilsOfPetocracy.pdf>.

A significant example of nationalization is when the country nationalized the Iraq Petroleum Company (IPC) in 1972.⁴² As one of the only prominent oil companies in the country at the time, the IPC had immense influence in government revenue and financing.⁴³ When the company became nationalized, major tensions arose due to the requirement that the company comply with new regulations.⁴⁴ These tensions between the Iraqi government and the IPC negatively impacted its production levels as well as its political relationships with other states in the region that were complying with OPEC regulations.

The Resource Curse

The state of Iraq's economy, where the country has an abundance of natural resources yet limited economic development, is commonly known as the **resource curse**.⁴⁵ Also referred to as "the paradox of plenty," the resource curse is commonly seen among states that are rich in natural resources but fail to harness their full potential. A number of explanations detail why resource-rich countries frequently struggle economically.

One factor that contributes to the overall cycle of the resource curse is called the **Dutch disease**. As a contributing problem to the resource curse, the Dutch disease refers to the phenomenon in which high revenues from either one resource or market negatively impact other sectors of the economy.⁴⁶ Since countries receive such high revenues from only one sector, the lack of revenue leaves many other sectors of the economy to be fragile and underdeveloped. Fragile or underdeveloped portions of the economy are particularly vulnerable to economic shocks, such as large changes in the price of goods exchange rates between currencies.⁴⁷ There are several ways

in which the Dutch disease could be either mitigated or eradicated all together in an individual country. Dutch disease is not inherent in resource-rich countries, however, proper management of production and revenue, through or without nationalization, can effectively mitigate the risk of deficiencies.⁴⁸

Another significant factor that contributes to the resource curse is the inadequate spending and finance of oil revenues. Proper management would allocate revenue from the oil industry into diverse sectors of the economy, particularly **infant industries**.⁴⁹ Unfortunately, it is common for large amounts of revenue to be either re-allocated to pay for unsustainable government spending or embezzled in different corruption scandals.⁵⁰ These two situations of revenue mismanagement and their results create a disjointed relationship between citizens and governments, leaving the burden of revenue mismanagement to be felt by citizens in different ways. The burden is exemplified through lacking infrastructure in neighborhoods, significant services and a lack of consistent funding for different government programs.

Political trends and transitions are another contributing factor in the vicious cycle of the resource curse. In conjunction with the other factors mentioned, different political agendas and periods can further promote the resource curse. At times, political instability results in rapid extraction.⁵¹ The greatest challenge posed by political instability is uncertainty; fear of seizure by changes in government or conflict reduces investor confidence, depriving the country of essential finance and management effort.⁵² Revenues from the extraction are commonly allocated to high level government officials instead of

42 Michael E. Brown, "The Nationalization of the Iraqi Petroleum Company." *International Journal of Middle East Studies* 10, No. 1 (1979): 107-24. <http://www.jstor.org.proxyau.wrlc.org/stable/162481>.

43 Ibid.

44 Ibid.

45 "The Resource Curse: The Political and Economic Challenges of Natural Resource Wealth," The National Resource Governance Institute, last modified March 2015, https://resourcegovernance.org/sites/default/files/nrgi_Resource-Curse.pdf.

46 Ibid.

47 Ibid.

48 Melissa Mittleman, "The Resource Curse," *Bloomberg*, last modified 19 May 2017, <https://www.bloomberg.com/quicktake/resource-curse>.

49 Will Kenton, "Infant-Industry Theory," *Investopedia*, last modified 1 October 2019, <https://www.investopedia.com/terms/i/infantindustry.asp>.

50 Kamiar Mohaddes, "Oil Revenue Volatility, Sanctions and Mismanagement: Lessons from Iran," *University of Cambridge*, last modified 17 May 2019, http://www.econ.cam.ac.uk/people-files/faculty/km418/Oil_Revenue_Volatility_Sanctions_and_Mismanagement_-_Lessons_from_Iran.pdf.

51 Adam Felsenthal, "Is Iraq The Next Nigeria? Revenue Sharing And The Natural Resource Curse," *Arizona Journal of International and Comparative Law* 27, No. 3, (October 2010): 787-833, <http://search.proquest.com/docview/875713705/>.

52 Daron Acemoglu and James Robinson, *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, (London: Profile Books, 2012).

the government of its citizens.⁵³ When countries use nationalization as a form of resource management, politics plays an even larger role in the resource curse because it pushes politics towards a larger role in sustainable management since the federal government has control over the natural resources. The mismanagement of resources causes a lack of transparency between citizens and governments which decreases citizen's overall confidence in their national government.

Mismanagement and Global Interdependence

Iraq has consistently suffered economically from mismanagement of the oil sector. In 1990, dictator Saddam Hussein accused Kuwait of extracting oil from oil fields that were located in Iraq's territory.⁵⁴ This, among other accusations, such as directly controlling the price of oil to hurt Iraq's economy, was the justification for their invasion into Kuwait. The United Nations responded to this war by placing **sanctions** on Iraq.⁵⁵ With these in place, Iraq was restricted from trading goods to outside countries as well as from receiving them from other states.⁵⁶ Since these sanctions damaged Iraq's overall economy, the UNSC created the Oil-for-Food Programme in 1995 to allow Iraqis to gain basic necessities. In depth, this program allowed Iraq to sell oil and use its revenues in order to purchase basic necessities for the nation's population.⁵⁷ While in theory the program was a feasible solution to provide food, water, and other basic necessities to citizens, it was an example of the dangerous impact of revenue mismanagement. Under Hussein, the revenue collected from oil exports was mismanaged and **embezzled** in order to petition for money from the UNSC.⁵⁸ In some instances, a large amount of aid received was used to expand their military and missile portfolio.⁵⁹ This scandal showed the negative impacts of revenue mismanagement. The Oil-for-Food Program proved that management

and implementations are key indicators that need to be taken into consideration when attempting to create sustainable ways to manage fossil fuels like oil.

This event only shows a snapshot of how ongoing conflicts shaped and impacted Iraq's economy, and illustrating the multifaceted issues that face countries with an abundance of resources but suffer from not reaching their potential economic growth. When federal governments nationalize and seize control of almost all profitable economic sectors, such as the oil sector, it is done so a country may capture as much revenue from a sector as possible, but, on the other hand, nationalization can commonly lead to issues with management and long term investments.⁶⁰ The resource curse, a vicious cycle commonly seen in states with an abundance of valuable resources, is historically complicated and difficult to escape. Careful management is necessary for countries to elevate themselves from this cycle. At the center of this situation is the need for better management allocation and, without any change to the current structure of revenue, stagnant economic growth will be the predictable future of Iraq.

Environmental Concerns and Consequences

The extraction of oil inherently comes with a number of harmful environmental consequences, but the severity of these effects can be largely controlled by the methodology of the extraction process.⁶¹ These environmental impacts, which are not paid by the firm and exact an economic cost more broadly, are referred to as negative environmental **externalities**.⁶² One prominent environmental externality of upstreaming oil is **oil spills**. Oil spills are caused by accidents at different parts of the upstreaming process where oil contaminates the water and animals in an ecosystem. Through oil

53 Ibid.

54 "Persian Gulf War," *History.com*, last modified 6 June 2019, <https://www.history.com/topics/middle-east/persian-gulf-war>.

55 Ahmed Shehabaldin and William M. Laughlin, Jr, "Economic Sanctions Against Iraq: Human and Economic Costs," *The International Journal of Human Rights* 3, 1-18, <https://www.tandfonline.com/doi/abs/10.1080/13642989908406841>.

56 Ibid

57 Sharron Otterman, "IRAQ: Oil for Food Scandal," *Council on Foreign Relations*, last modified 28 October 2005, <https://www.cfr.org/backgrounder/iraq-oil-food-scandal>.

58 "Embezzle," *Merriam-Webster*, accessed 8 July 2019, <https://www.merriam-webster.com/dictionary/embezzle>.

59 Anthony H. Cordesman, "War and the Iraqi Economy: A Case Study," *Center for Strategic and International Studies*, last modified 15 September 2015, <https://www.csis.org/analysis/war-and-iraqi-economy-case-study>.

60 Will Kenton, "Nationalization," *Investopedia*, last modified 30 March 2018, <https://www.investopedia.com/terms/n/nationalization.asp>

61 Ibid

62 Will Kenton, "Understanding Externalities," *Investopedia*, last modified 26 May 2019, <https://www.investopedia.com/terms/e/externality.asp>.



Kuwaiti firefighters fight to secure a burning oil well in the Rumaila oil fields, set ablaze by Iraqi military forces

spills, different forms of natural disasters such as fires and energy explosions can arise.⁶³

Fire spills are an externality that can be directly traced back to oil spills.⁶⁴ They occur when an extreme amount of heat is concentrated on a small portion of water where spilt oil is located. Due to the chemical components of both water and oil, fire erupts when oil comes in contact with the heat.⁶⁵

Another environmental externality that stems from oil is **gas flaring**. Gas flaring occurs intentionally, when oil and natural gas fields controllably flare specific amounts of natural gas

as part of a test to see different properties of the oil or gas.⁶⁶ However, there are several negative environmental consequences from gas flaring, with the most impactful externality being the amount of carbon emissions (CO₂) into the Earth's atmosphere, which contributes to the effects of global climate change.⁶⁷ The World Bank has recognized this situation and created the "Gas Flaring Reduction Partnership," a collaborative project which includes national, regional governments as well as different international institutions.⁶⁸ The project aims to research different methods in which barriers can be removed in order to reduce gas flaring.⁶⁹ Mitigation techniques used to

63 "Oil: crude and petroleum products explained," *US EIA*, accessed July 08, 2019. https://www.eia.gov/energyexplained/index.php?page=oil_environment.

64 Michael Dorsey, "Fighting oil spills with fire," *International Fire Fighter*, last modified 12 June 2017, <https://iffmag.mdmpublishing.com/fighting-oil-spills-with-fire>.

65 Ibid.

66 "Understanding the Basics of Gas Flaring," *Ohio Environmental Protection Agency*, accessed 30 October 2019, <https://epa.ohio.gov/Portals/27/oil%20and%20gas/Basics%20of%20Gas%20Flaring.pdf>.

67 M. Abdulkadir, A. G. Isah, Y. Sani, "The Effect of Gas Flaring on the Environment and its Utilization (Case Study of Selected Villages in Niger Delta Area of Nigeria)," *Journal of Basic and Applied Scientific Research* 3, No. 4 (2013): 283-291, <https://pdfs.semanticscholar.org/ef12/066c190fc9d9c72a6fbeb0f081224bf80860.pdf>.

68 "Gas Flaring Reduction," *World Bank*, accessed 29 October 2019, <https://www.worldbank.org/en/topic/gas-flaring-reduction>.

69 Ibid.

prevent these environmental consequences are another form of sustainably managing and allocating natural resources.

Case Study: Iraq's Oil Productivity and Oil-Based Disasters

Despite the large amount of oil Iraq produces and exports to different countries around the world, much of the oil consumed by Iraqi citizens is imported by different countries—especially Iran.⁷⁰ As a result of Iraq's significant trading partners' foreign policy relations with Iran, Iraq's strong relationship with Iran has created tensions between Iraq and its trading partners. Specifically, Iraq's bi-lateral relationship with Iran has put a strain on the state's relationship with the United States. With the US threatening to cut off all forms of trade, tensions such as these how politics plays a significant role in the global oil market.

In Iraq, the different factors affecting the levels of output and productivity show how classical indicators are no longer the dictating factors that can be prevented through different economic measures. Delegates should consider the growing role politics play in the economic formation and state of national economies.

The historical development of the supply of oil Iraq extracted shows that deep fluctuations in the barrels produced per day (BPD) have a significant effect on the economy. More importantly, the levels of BPD can affect the overall oil market as a whole. Currently the high levels of output have allowed Iraq to be the main petroleum export for major economies such as the United States, South Korea, China, India, Greece and the Netherlands.⁷¹ 95% of all exports leaving the country are petroleum oil, or approximately 4.4 million barrels of oil a day.⁷² Iraq benefited from the increase in the global demand for oil and increased production in order to meet the needs of their significant trading partners. For Iraq, increasing production to a certain extent would generate more revenue, but one

must also consider the effect on the global market. Significant changes in oil production by an individual country can affect the competitiveness of the global oil market. To keep the competitive oil market as equitable as possible, OPEC uses quotas as a method to prevent a non-equitable oil market, and although OPEC has established strict quotas to prevent these types of issues, the non-binding agreements allows for loopholes such as these to appear.⁷³ Iraq is an example of the members of OPEC currently attempting to break apart from the strict quotas of OPEC to create a better economic environment for the state.

In March, Iraq experienced both the largest oil spill and fire spills in the country's history. Surpassing the monumental spills in the 1990s, the process to clean up the oil is both challenging and costly. Although the number of barrels of crude oil lost has not been disclosed, any amount negatively affects the economy in two different ways.⁷⁴ First, the amount of spilled oil decreases the amount of oil that could be sold either domestically or internationally. Second, the cost of oil spill clean can be extremely expensive. While the cost of clean-ups is contingent on a country's characteristics, the average oil spill can require from USD 100 million to USD 1 billion.⁷⁵ These costs are used to physically clean up areas where oils have spilled out as well as damaged infrastructure.

Sovereign Wealth Funds

Iraq is not a unique case in which fossil fuels are the main driver of the economy; other countries within the region have oil sectors as a main portion of their economy as well. These states, such as the Kingdom of Saudi Arabia, Kuwait, and Qatar, have allocated a portion of revenue made from oil into separate funds. As a result of the volatility of the global oil market, governments have created funds that specifically act as an economic safety net. Government-owned investment funds, which are normally compiled through an

⁷⁰ Ibid

⁷¹ Mohammed Sergie and Verity Ratcliffe, "Iraq Is Finally Pumping Enough Oil to Flex Its Muscles in OPEC," *Bloomberg*, last modified 10 April 2019, <https://www.bloomberg.com/news/articles/2019-04-10/iraq-is-finally-pumping-enough-oil-to-flex-its-muscles-in-opec>.

⁷² Ibid

⁷³ Ibid

⁷⁴ Miguel Lianos, "Oil spill industry on Iraq standby," *NBC News*, last modified 6 March 2019, <http://www.nbcnews.com/id/3073272/t/oil-spill-industry-iraq-standby/#.XVnfhWRKjOQ>

⁷⁵ Ibid.



Explosion, oil spill, and clean up of Swedish Tanker Mega Borg

access of funds from the central bank, are known as **sovereign wealth funds (SWF)**.⁷⁶ Sovereign wealth funds hold different functions and purposes, but the two most common are creating a safety net in case of economic shocks and funneling state revenues into a dedicated channel for long-term investment.⁷⁷ Some of the oldest and most successful forms of sovereign wealth funds are found among OPEC countries. Although the prime function for some is to be used when the economy is deeply affected by some type of economic event, another popular usage of a sovereign wealth fund is to aid future generations in financial payments.⁷⁸ An important thing to note about SWFs is that they continuously increase in size due to annual deposits into the funds. In 2003, after the sanctions were lifted from Iraq, the United Nations Security Council created the Development Fund for Iraq as a recovery response from the Oil-for-Food Scandal.⁷⁹ The Development Fund of Iraq was made with the revenue from the oil sector to be used as a form of financial assistance in case of an economic recession.⁸⁰

For SWFs to be successful, there must be equitable management and allocation of resources. Unfortunately, Iraq suffers

from high levels of corruption, where the mismanagement of revenue and resources is the biggest challenge the country faces in the oil sector and for economic growth in general.

Case Study: Iraq's Development Fund

Recalling from previous sections, the oil sector is the driving force of Iraq's economy and the state's dependence on the oil sector has left other sectors of the economy underdeveloped and unequipped to make a contribution to the economy and society during economic downturns.⁸¹ The dependency of a volatile market, such as the oil market, without adequate safety nets to aid in economic recovery leaves Iraq in a dangerous situation. One market change away from economic failure, Iraq has begun to take some initiatives to diversify its economic portfolio, however those plans remain in the early stages.⁸² For example, while the Development Fund for Iraq can be used as a safety net to aid the economy during a recession, its small size compared to other OPEC sovereign wealth funds indicates the little progress that has been made to diversify and prepare Iraq's economy for unforeseen fluctuations.⁸³ Unfortunately, the growth of the oil sector and underdevelopment of other sectors indicate that economic diversification is likely to be a difficult transformation.⁸⁴ Diversifying Iraq's national economy does not necessitate completely abandoning the current development and success of the oil market; it can and should have a significant role in promoting the development of different sectors. In times where global politics play an important role in national economies, these events only prove the need for economic diversification.

Another way politics are negatively impacting Iraq's national economy is through the escalating tensions between the United States and Iran. Since Iran is Iraq's top importer of oil, which is primarily consumed by citizens, the United States

76 "What Is a Sovereign Wealth Fund?" The Sovereign Wealth Fund Institute, accessed July 08, 2019. <https://www.swfinstitute.org/research/sovereign-wealth-fund>.

77 Ibid.

78 Ibid.

79 "The Development Fund for Iraq," *Coalition Provisional Authority*, accessed July 08, 2019. https://govinfo.library.unt.edu/cpa-iraq/budget/DFI_intro1.html.

80 Ibid.

81 Ibid.

82 Ibid.

83 "Development Fund for Iraq," *Global Policy Forum*, accessed 8 July 2019, <https://www.globalpolicy.org/humanitarian-issues-in-iraq/development-fund-for-iraq.html>.

84 Natasha Turak, "Iraq's massive 2019 budget still Fails to address reform needs, expert says," *CNBC*, last modified 30 January 2019, <https://www.cnb.com/2019/01/30/iraqs-massive-2019-budget-still-fails-to-address-reform-needs.html>.

made economically threatening remarks, including enforcing sanctions as retaliation for continuing bi-lateral deals with Iran.⁸⁵ Iraq may face detrimental consequences if these sanctions are implemented without the development of other sectors or funds that could be used in the state.

The World Bank uses economic indicators such as GDP growth, employment rate, wages and welfare to illustrate the importance of economic diversification. The stagnation of GDP growth, job creation, and other indicators show how the limited growth of **social benefits** the oil sector can provide.⁸⁶ One sector that can aid in the diversification of the economy is the public sector. Iraq is currently experiencing a growth in job opportunities in the public sector due to different attractive incentives, with a significant incentive of finding a job in the public sector being a result of the **overcrowding** of the private sector.⁸⁷ Overcrowding, or oversaturation, occurs when there are too many businesses in a specific market which ultimately hurts competition. The surge of individuals seeking employment in the public sector indicates the need for investments in education and training programs.⁸⁸

When discussing the diversification of Iraq's economy, the oil sector has the potential to play a key role in the development of other areas, with proper revenue management allowing for revenue from the oil sector to grow other parts of the economy. In 2013, Iraq created a five-year economic reformatory plan, whose goal was to diversify the overall economy.⁸⁹ This five-year plan consisted of different developmental projects which would be seen in five specific sectors of the economy: infrastructure, agriculture, transportation, communication, and education. This project was a joint collaborative effort from the government and different private enterprises.⁹⁰ Development plans like this are the right model that can aid un-

derdeveloped sections of the economy; however, in order for developmental projects like these to be successful, equitable contributions from all sectors of the country and revenue management is needed for citizens to reap benefits from these types of projects.

Economic diversification is a means of insurance against all theories, conditions, and characteristics relating to the volatility of the oil market. While dangerous changes in the oil market show how the significance of creating a diverse economic portfolio, at the same time, the success of the oil sector proves that there is no need for the oil sector to decline. In fact, this part of the economy can prosper while guiding the growth of other parts as well.⁹¹

SDG 8: Decent Work and Economic Growth

All necessary efforts in the process of sustainable fossil fuel management in Iraq promote the different targets within the United Nations Sustainable Development Goals. While creating a sustainable economy involves the implementation or reformation of different policies and programs, SDG 8: Decent Work and Economic Growth should be used as a foundation in order to ensure the most prosperous results for not only Iraq, but for the global economy.

On the national level, targeting loan projects towards attainment of SDG 8 will allow Iraq to continuously build their economy beyond international aid. More specifically, sustainable changes which improve the labor market will incentivize future generations to continue their education in order to obtain sector-specific jobs. In comparison to the current state of Iraq's labor market where there is a low participation rate among younger generations.⁹² The benefits of increasing la-

85 Sam Meredith, "The Oil Market Is Becoming Increasingly Dangerous, Analysts Say - and Crude Prices Are Feeling the Pressure," *CNBC*, 19 July 2018, <https://www.cnbc.com/2018/07/19/oil-prices-energy-market-is-becoming-increasingly-dangerous-analysts.html>.

86 "What Is Social Benefit? Definition and Meaning," *Business Dictionary*, accessed 8 July 2019, <http://www.businessdictionary.com/definition/social-benefit.html>.

87 "How to Compete in an Overcrowded Industry," *Business Town*, last modified 12 July 2017, <https://businesstown.com/how-to-compete-in-an-overcrowded-industry/>.

88 World Bank, *Iraq - The Unfulfilled Promise of Oil and Growth : Poverty, Inclusion and Welfare in Iraq Volume 3, 2007-2012*, accessed 29 June 2019, <http://documents.worldbank.org/curated/en/678391468039024827/Policy-notes>.

89 Raheem Salman, "Iraq Five-year Plan Will Attempt to Diversify Economy," *Reuters*, last modified 19 September 2013, <https://www.reuters.com/article/iraq-economy-plan/iraq-five-year-plan-will-attempt-to-diversify-economy-idUSL5N0HF0CE20130919>.

90 Ibid

91 Tim Gould, "Economic Diversification for Oil and Gas Exporters Doesn't Mean Leaving Energy behind," *The International Energy Agency*, last modified 25 October 2018, <https://www.iea.org/newsroom/news/2018/october/economic-diversification-for-oil-and-gas-exporters-doesnt-mean-leaving-energy-be.html>.

92 Mehdi Al-Alaak et al., "The unfulfilled promise of oil and growth : poverty, inclusion and welfare in Iraq 2007-2012 (Vol. 2)," *World Bank*,

bor participation of younger generations and women can be seen in indicators used by the United Nations which measures the progress of each goal. An increase in labor participation increase the level of labor productivity in the workforce, an increase in Real GDP and GDP per capita.⁹³

Within the recent decade, Iraq has unconsciously implemented goals that are in compliance with the targets of SDG 8. In 2015, the federal government expanded the amount of jobs in different areas of the public sector as a way to create jobs in lieu of the lack the oil sector creates. Despite the positive intention behind this expansion, in the long run it became

damaging to the federal budget since more money needed to be allocated than estimated.⁹⁴ This reform is an example that not all initiatives can be sustainable in the long run and could possibly be damaging to the future economy. The consequences that followed three years after the expansion was implemented exemplifies the need for sustainable initiatives. Partner projects with Iraq and the World Bank are examples of initiatives with sustainable intentions. In 2018, Iraq made a USD 510 million project specifically aimed to increase the livelihood of individuals in the country.⁹⁵ Within this, money is specifically allocated to ensure that education rates within all levels that will aid in labor participation rate.



Image of pipe infrastructure in Iraq which is used to distribute fossil fuels to different refinery stations throughout the country

last modified 1 December 2014, <http://documents.worldbank.org/curated/en/752991468261314600/The-unfulfilled-promise-of-oil-and-growth-poverty-inclusion-and-welfare-in-Iraq-2007-2012>.

93 Hannah Kanter, "Female Participation Benefits to the Labor Force," *Wharton University of Pennsylvania Public Policy Initiative*, last modified 16 September 2018, <https://publicpolicy.wharton.upenn.edu/live/news/2611-female-participation-benefits-to-the-labor-force/for-students/blog/news.php>.

94 Ali Al-Mawlawi, "Analyzing Growth Trends in Public Sector Employment in Iraq," *London School of Economic and Political Science*, last modified 31 July 2018, <https://blogs.lse.ac.uk/mec/2018/07/31/analysing-growth-trends-in-public-sector-employment-in-iraq/>.

95 "World Bank's Commitment to Iraq Reaches US\$4.7 Billion," *World Bank*, last modified 14 February 2018, <https://www.worldbank.org/en/news/press-release/2018/02/13/world-banks-commitment-to-iraq-reaches-us47-billion>.

SDG 12: Responsible Consumption and Production

At the heart of fossil fuel management in Iraq is the call for the promotion of sustainable management of their natural resources. Many targets within SDG 12: Responsible consumption and production specifically address ways in which both developed and developing countries could strive towards sustainable management, production and consumption.⁹⁶ An aspect of these specific targets that addresses sustainable management of all-natural resources is the significance of its environmental impact. This goal was created with the intention of minimized the overproduction and consumption of natural resources, toxins, waste and pollution.⁹⁷

In Iraq, there is a dire need for the sustainable management of oil due to the lengthy production process; unlike other natural resources, it takes an extensive amount of time for fossil fuels to reproduce once they have been extracted.⁹⁸ As a result of the extensive time period for fossil fuel to reproduce in combination to the high levels of consumption and waste of fossil fuels, the supply of fossil fuels in the earth is slowly decreasing. An initiative that has begun to gain influence in developed countries is the research and consumption of renewable energy. For states such as Iraq, while the idea of renewable energy may at first seem daunting since it is a threat to their most valuable sector, it is possible to have a balanced relationship between fossil fuels and renewable energy. For the oil sector to maintain its key role in Iraq's economy, there must be initiatives that reduce the production and consumption of fossil fuels and promote the research and design of renewable resources.

The World Bank implemented the **Environmental Social Framework (ESF)** in 2018, which is a framework that can be

96 "Goal 12.....Sustainable Development Goals Knowledge Platform," *United Nations*, accessed 29 October 2019, <https://sustainabledevelopment.un.org/sdg12>.

97 Ibid

98 "The Formation of Fossil Fuels," *Rice University*, accessed 30 October 2019, <https://www.acaedu.net/cms/lib3/TX01001550/Centricity/Domain/389/5.7A%20Formation%20of%20Fossil%20Fuels.pdf>

99 "Environmental and Social Framework," *World Bank*, last modified 1 October 2018, <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>.

100 "Towards a Clean, Green, Resilient World for All," *World Bank*, accessed 30 October 2019, <https://www.worldbank.org/en/topic/environment/publication/environment-strategy-toward-clean-green-resilient-world>.

101 Ibid

102 "Sustainable Development Goals (SDGs) and the 2030 Agenda," *World Bank*, accessed 30 October 2019, <https://www.worldbank.org/en/programs/sdgs-2030-agenda>.

103 Ibid.

applied to all forms of project financing. This allows for countries to be able to address and find solutions that will mitigate any form of social or environmental risk.⁹⁹ It could be applied to all forms of projects approved from the Bank and enables states to better understand the environmental risks to specific initiatives. The information countries gain from frameworks established like this helps with reform initiatives to ensure that benefits are sustainable overall. Another initiative the World Bank created "The World Bank Group's Environment Strategy 2012-2022," which aims to support developing states strive towards a green, clean and resilient economy through different projects.¹⁰⁰ This strategy is broken down into three different categories, green, clean, and resilient; these three designations separately and collectively strive towards sustainable societies and environmental systems.¹⁰¹

Outside of Iraq, both the World Bank and IBRD maintain a positive relationship with the United Nations. To show their support for the SDGs, both international banks have used their own 2030 development goals as a catalyst for the SDGs.¹⁰² The World Bank has committed to allocating more money towards developmental spending and projects that keep the SDGs in mind. The Bank believes that "*Our convening role* as an institution will continue to involve leaders and members of global partnerships, of course exploiting the Bank's own comparative advantages, while bringing along other partners to fill gaps, especially the private sector."¹⁰³

Feasibility

Implementation

In the past, the Bank has addressed fossil fuel management issue through different developmental projects, with time

lengths ranged from one year to almost ten years. The different initiatives implemented in the past show how each individual project is catered to the specific needs and state of the country. Since each is catered to the most modern state of the country, other important characteristics of a loan proposal such as the terms of disbursement, the length of the project and the total amount, are also catered to the specific characteristics of the country. It is important to note how all past and current projects with the International Bank and the World Bank attempt to incorporate the United Nations Sustainable Development Goals. The three projects mentioned below specifically highlight different possible initiatives that specifically addressed ways of sustainable management in the oil sector. These also attempts to incorporate the development goals that encompass increasing the well-being of citizens as well as the sustainability of clean and affordable energy.¹⁰⁴

In 2016, the IBRD extended the “Rationalization, Energy Efficiency, and state-owned Enterprise Governance Program” to aid in adjusting Iraq’s economy to the predictable decrease in national oil revenue. The project, originally created in 2015, was given an additional USD 200 million USD to the USD 1.2 billion overall budget to increase the financial stability of the economy through the oil sector.¹⁰⁵ The project used the oil sector of Iraq as the center focus and expanded upon its revenue in order to reform different institutions within the government. These reformations are hypothetically meant to increase the transparency between different government agencies and improve the relationship between federal and local levels of government.¹⁰⁶ Another significant focal point of this project is the increasing participation and development of the private sector.¹⁰⁷ An active private sector would be another source of revenue for Iraq that does not rely heavily on the oil sector, and the project for the additional funding had a short trajectory, closing by the end of 2016.

104 “About the Sustainable Development Goals - United Nations Sustainable Development,” *United Nations*, accessed 19 July 2019, <https://www.un.org/sustainabledevelopment/sustainable-development-goals>.

105 “Program Information Document, Appraisal Stage,” *World Bank*, last modified 7 December 2016, <http://documents.worldbank.org/curated/en/192571481256568050/pdf/110866-PGID-P161167-Appraisal-Stage-Box396337B-PUBLIC-Disclosed-12-8-2016.pdf>.

106 Ibid.

107 Ibid

108 “Project Appraisal Document.” *World Bank*, last modified 19 April 2019, <http://documents.worldbank.org/curated/en/504001557108087756/pdf/Iraq-Electricity-Services-Reconstruction-and-Enhancement-Project.pdf>.

109 Ibid

110 Ibid

111 Ibid

This year, the World Bank has issued a five-year long project which addresses the need for sustainable accessibility and storage of electricity for Iraqi citizens. With a total amount of USD 200 million, the initiatives fell under three general components.¹⁰⁸ The first component which allocated for USD 95.0 million, was used in order to address the technical difficulties of the transmission networking as well as reinforce any adequate systems. The overall goal of this component was to ensure that the production of electricity, as well as its transportation, is secured and has access to different towns throughout the country starting at oil fields and other electricity production sites. The second component of the “Electrical Services Reconstruction and Enhancement Project (ESREP)” is centered around the usage of electricity and distribution within local towns, as the first component was limited to factories.¹⁰⁹ This component ensured that businesses had functioning and sustainable networks which would transport usable electricity into each individual household¹¹⁰. This second component also makes different preparation plans in case of technical failure in the future.¹¹¹ Lastly, the third component of the project overall is to create different ways to increase the participation of the private sector for USD 5 million. This participation would increase communication between private sector businesses and the federal government, which falls along the lines of creating different performance and management criteria and reports to ensure that facilities are maintained to a certain standard. By elevating the standards and the relationship between the federal government and private sector companies, it ensures that facilities are properly managed. In the situation where repairs need to be made, the costs of small-scale repairs will be less than large scale repairs, which can come up as a result of the lack of communication.

Returns on Investment: Economic Diversification

As Iraq is dependent on oil, economic diversification will mean allocating money or investments into economic sectors that either do not react to the oil market or are affected minimally by the oil sector.¹¹² By investing and developing into these other parts of the economy, it would build up Iraq's defense towards economic shocks. Overall, there are both general and specific measures that a country can take to diversify an economy. General measures will develop as different sectors in the economy while specific measure can either target specific sectors of the economy or specifically prepare Iraq for unexpected shocks to the economy.

For example, in 2017, the International Bank approved of a USD 400 million project for Iraq called "Emergency Operation for Development Project (EODP)."¹¹³ Created as a result of Iraq's liberation from ISIS, this project captures the general need for emergency assistance humanitarian and economically. As a result no end date, the initiatives have a general purpose and goal; they sought to revitalize different economic sectors such as the agriculture industry as well as an aid in the reconstruction of public infrastructure such as roads and airports.¹¹⁴ The other component of the project sought to ensure that basic needs were dispersed throughout the country ranging from different medical services such as clean water and food.¹¹⁵ Expanding upon this component of the project, there are established initiatives that ensure sanitation and distribution of these services are adequately met in the future.¹¹⁶ Initiative within these long term goals or ends dates, such as EODP, establish fundamental services and capital needed to grow Iraq's economy. Without initiatives such as this, any form of growth in the non-oil sector can either be unsuccessful or only grow for a short period of time. The lack of projects like this allows for Iraq to be dependent on the oil sector.

112 Nick Lioudis, "The Importance of Diversification," *Investopedia*, last modified 15 August 2019, <https://www.investopedia.com/investing/importance-diversification/>.

113 "Emergency Operation for Development Project - Additional Financing," *World Bank*, accessed 19 July 2019, <http://projects.worldbank.org/P161515/?lang=en&tab=overview>.

114 Ibid

115 Ibid

116 Ibid

117 "Tunisia Innovative Startups and SMEs Project," *World Bank*, accessed 19 July 2019, <http://projects.worldbank.org/P167380?lang=en>.

118 Ibid

119 Ibid.

120 Ibid.



The WilPhoenix sits in Cromarty Firth, near Invergordon, Scotland. The 1982-built rig is equipped for drilling in water depths up to 1,200 ft

Services, such as those equitably distributed to different parts of the country, ensure that non-oil sectors in the entire country receives the proper services in order to sustainably grow in the long run.

This year in Tunisia, the World Bank initiated a seven-year long project to promote start-up businesses and Small and Medium Enterprises (SME).¹¹⁷ The USD 75.0 million program is known as "Tunisia Innovative Startups and SMEs Project," and addresses the issue through a two-pillar approach. The first pillar allocates USD 62.0 million for aid in equitable financing for startups and SMEs.¹¹⁸ A specific objective within this pillar states that different forms of investments will promote and bring innovative technology to SMEs. The second pillar is allocated for USD 8.0 million towards giving SMEs and startups the leverage to compete in the market.¹¹⁹ This specific form of investment will overall aid in the relationship between businesses, banks and firms.¹²⁰ The remaining USD 5.0 million is used towards management and ensuring that relationships and infrastructure for these businesses are properly maintained. This project is an example of a more specific measure that will aid in the development of Iraq's overall economy. By specifically investing in SMEs of the general private sector, it will increase the presence of private companies in the overall economy. More private com-

panies in the economy increases competitiveness in different markets. Investing in SMEs is also another form of increasing community engagement in sectors of the economy as well as be more beneficial in comparison to promoting the large presence of foreign companies. Increasing community engagement through these specialized investments and grants will be beneficial in different ways, including improvements in the constituent-government relationship.

Returns on Investment: Human Capital Development

Specifically, the World Bank started the Human Capital Project (HCP) in the hopes of improving human innovation in light of the increase of digitalization and the use of technology in place of workers. Increasing the opportunities for human innovation allows for an equally balanced relationship in the labor market for technology and physical capital. In 2018, *Forbes* magazine reported that technology has either replaced or influenced about 90% of jobs strictly executed by humans a century ago.¹²¹ The increasing use of technology has disrupted an equitable wealth and wage distributions in many firms from the higher authorities to lower-level workers; technology has allowed for wages to be distributed to higher level positions. Establishing or increasing investments in human capital only allows for different technological innovations to be created, but it also reaffirms the significant role human capital has in the labor market. These investments also aid in strengthening political stability in a country by increasing citizen's responsibility and role in society. The World Bank has implemented this idea through different projects in various regions. Due to the broad range of investments this topic covers, the Bank has implemented projects which cover investments in education, economic and financial resilience building, small local enterprises, safety net systems, and poverty reduction strategies.¹²²

Education is one outlet in which investments and different forms of partnerships fall under the Bank's Human Capital Project. Specifically following these mentioned themes, the

Bank has partnered with Rwanda's Ministry of Education in allocating USD 200 million to promote and improve the basic education system. The money within this partnership addresses the improvement of: competence and effectiveness of teachers across schools, English proficiency, science and mathematical curriculum and innovative instructional practices.¹²³ Logistically, projects such as this will reduce the likelihood of overcrowding in the school, which improves upon the retention rate of students in primary education and increases the attendance percentage in higher education. In Iraq, organizations such as UNICEF have reported a sharp decline in the attendance rate of primary education due high levels of political instability in combination with a lack of educational resources or capital. By implementing partnerships similar to those between the Bank and Rwanda, the increase in school attendance beginning in the primary levels will start a trend for students to continue education beyond the primary and secondary level. This trend will cause an increase in innovation of new ideas and technologies which could be beneficially in different sectors of the economy through the expansion of their respective markets.

Another key concept with current partnerships is resilience and prosperity building. Economic resilience is a country's ability to avoid, withstand, and quickly recover from an economic shock altogether. One way a country can expand its capacity of economic resilience is through their management of public finances and available resources during natural disasters or shocks to the economy. The World Bank made a USD 30 million agreement with the Maldives to implement different public finance strategies that will ultimately build up their financial ability to recover from economic shocks or natural disasters. Specific management skills, such as financial risk management, are just one of the many components in this project that will give resources to Iraq to finance any form shock. By having resources and finances set aside for events such as this, Iraq will not need to reallocate finances from other significant aspects of the economy.

121 "Technology Has Already Taken over 90% of the Jobs Humans Used To Do," *Forbes*, last modified 18 January 2018, <https://www.forbes.com/sites/quora/2018/01/18/technology-has-already-taken-over-90-of-the-jobs-humans-used-to-do/#6abdf401bdd>.

122 "Human Capital Project," *World Bank*, accessed 30 October 2018, <https://www.worldbank.org/en/publication/human-capital#News>.

123 "The World Bank Allocates \$200 million to Boost Basic Education in Rwanda," *World Bank*, last modified 1 August 2019, <https://www.worldbank.org/en/news/press-release/2019/08/01/the-world-bank-allocates-200-million-to-boost-basic-education-in-rwanda>.

Bloc Analysis

Point of Division

Iraq's political and economic history with other countries has caused points of division to arise. The first point of division is whether or not it is economically beneficial to decrease the supply of oil. With quotas already established, the implementation of productivity output will only place even more of a strain on whether or not oil should be allocated more towards lasting trade agreements or the increasing demand of citizens.¹²⁴ The conversation surrounding the negative externalities of oil as a whole will also create different points of divisions. One of the most prominent negative consequences to oil is its negative effect on water as a result of spilling. Oil spills not only affect the sanitation of water but life under water as well.¹²⁵ This will divide countries that either support or are against forms of climate change mitigation measures. Countries will either be opposed or in favor of Iraq taking specific measures to mitigate the risk the magnitude of negative effects. Another point of division will arise in committee will deal with the allocation of revenue coming from the government. In one aspect the division will be whether or not the money should be reinvested back into the fossil fuel industry or into different sectors of the economy. Different countries will debate whether or not revenue generated from the oil industry should be reinvested in the industry or into other sectors of the economy.¹²⁶

OPEC Partners

At times, the dynamics between OPEC members and closely allied non-members can be very tense due to individual political policies and objectives. Specifically, countries like Saudi

Arabia and Russia have often been in opposition with Iraq. As the second largest economy in the Middle Eastern and North African (MENA) region, tensions between Iraq and Saudi Arabia are currently high, especially because Saudi Arabia holds a large influence in OPEC.

Within OPEC, a highly contested topic that, at times, has not been agreed upon is output levels and quotas. Although members of OPEC create measures to control oil price fluctuations, tensions have arisen due to Iraq's non-adherence to some of these policies. In 2018, members of OPEC agreed to reduce the amount of global oil produced annually, however, the specific amount of production was contested to the point that the meeting led to no agreed number.¹²⁷ Nevertheless, later that year, consensus was made and the organization began the process of lowering the maximum amount of oil produced annually for all member countries.¹²⁸ All 15 member states, as well as other countries such as Russia, reached a deal to reduce the amount of oil supplied by 1.2 billion barrels collectively.¹²⁹ This quota was instilled by OPEC for a short time period, 18 months.¹³⁰ As this quota comes to an end, there is discussion of continuing production at his new rate or reduce the barrels produced even further. Iraq is one of the most prominent opposers to the reduced supply level and plans to increase their supply of oil to 6 million barrels produced per day by 2030.¹³¹ Although the deal made in 2018 was reached unilaterally, Iraq is stepping outside of the boundaries of the deal to pursue what is in the best interest of their economy. This being one step away from the organization's original goals is very dangerous not only to the national economy but for the global oil market as well. With one country produce more than a group of others, there will be a disruption in the stable market OPEC has attempted to control as well as disrupt-

124 Mohammed Sergie and Verity Ratcliffe, "Iraq Is Finally Pumping Enough Oil to Flex Its Muscles in OPEC," *Bloomberg* last modified 10 April 2019, <https://www.bloomberg.com/news/articles/2019-04-10/iraq-is-finally-pumping-enough-oil-to-flex-its-muscles-in-opec>.

125 Mee Wei Lim, Ee Von Lau, and Phaik Eong Poh, "A Comprehensive Guide of Remediation Technologies for Oil Contaminated Soil — Present Works and Future Directions," *Marine Pollution Bulletin* 109, No. 1 (August 2016): 14–45, <https://www.sciencedirect.com/science/article/pii/S0025326X16302247>.

126 Adam Felsenthal, "Is Iraq The Next Nigeria? Revenue Sharing And The Natural Resource Curse," *Arizona Journal of International and Comparative Law* 27, No. 3 (October 2010): 787–833, <http://search.proquest.com/docview/875713705/>.

127 Tom DiChristopher and Sam Meredith, "OPEC and Allies Agree to Cut Oil Production by 1.2 Million Barrels per Day," *CNBC*, last modified 7 December 2018, <https://www.cnn.com/2018/12/07/opec-meeting-saudi-arabia-and-russia-look-to-impose-production-cuts.html>.

128 Ibid.

129 Ibid.

130 Ibid.

131 Ahmed Rasheed, "Iraq Says It Has Enough Oil Capacity to Meet Customer Needs," *Reuters*, last modified 25 April 2019, <https://www.reuters.com/article/us-oil-opec-iraq/iraq-says-it-has-enough-oil-capacity-to-meet-customer-needs-idUSKCN1S10Y8>.

ing the market competition between oil exporting countries. By taking the step outside of the organization's objective, this move can be seen by other countries as a way for Iraq to exert its power over other countries.

This contested issue is not the only issue which brings about tensions within the region and this bloc of countries. Outside of oil-related issues, states within the organization have concerns with Iraq's political and economic relationship with Iran. Iraq currently exports a substantial amount and imports much of the oil used by Iraqis to and from Iran.¹³² Given the timeliness of ISIS leaving Iraq, countries such as Saudi Arabia are currently trying to rebuild relationships with Iraq through the spread of Pan-Arabism.¹³³ One way this effort could be executed is through the process of regional integration. Regional integration would mean Iraq and states in the surrounding region will have both complementary economic and political sound policies. These efforts however are being halted due to Iraq's current relationship with Iran and the escalating tensions between other countries.

OECD Countries

The United States, countries in Europe and the European Union have individually taken initiatives in order to aid in Iraq redevelopment after its several periods of conflict. Historically, at times, both North America and Europe have disagreed on the overall strategies of Iraq but now have reached a clearer consensus on diplomatic relations with Iraq. The escalating tensions between the United States and Iran have laid the foundation for concerns they have with Iraq. Achievements made by these two regions are now either being put to the test or slowly eroding due to escalating tensions. The diplomatic

efforts and assistance made by both the United States and European countries are implemented with the priority and focus of maintaining both security and influence in the region.

In 2018, European countries and the European Union reaffirmed their support with Iraq's foreign ministers in supporting economic and political reforms in Iraq.¹³⁴ "The EU Strategy for Iraq" is a project where the European Union implements soft power tools in order to address the core problems Iraq is facing.¹³⁵ Through the implementation of soft power tools, the overall goal of this new strategy is to have a more unified Iraq that will be more prepared for any form of political and economic shocks. Monetarily, the European Union has donated a total estimate of USD 1.3 billion since 2014 to address these different issues.¹³⁶ In more recent years, the EU has donated USD 33 million in humanitarian aid, which has been used in order to solve a number of humanitarian crisis such as the Internally Displaced Persons (IDPs).¹³⁷ The efforts made by the EU, however, have not completely aided in the diplomatic relationships between European countries. For example, there have been a number of European citizens in Syria who have been transferred to Iraq by the Syrian Democratic Force (SDF) to be tried in the war against ISIS.¹³⁸ Although countries like France have specifically allowed Iraq to put these individuals on trial, the state is asking for a fee of USD 10 billion to cover the costs of taking in the detainees.¹³⁹

A primary concern for both the United States and Europe is security in Iraq and different ways countries within this alliance can maintain security in the country.¹⁴⁰ As a way to counter the influence of both Iran and the possible re-emergence of ISIS, the United States and European countries have military bases in Iraq. These military bases are used to attempt to

132 Stephen Kalin and Rania El Gamal, "Saudi Oil Facilities Attacked, U.S. Sees Threat in Iraq From..." *Reuters*, last modified 14 May 2019, <https://www.reuters.com/article/us-saudi-oil-usa-iran/saudi-oil-facilities-attacked-u-s-sees-threat-in-iraq-from-iran-backed-forces-idUSKCN1SK0YM>.

133 Renad Mansour, "Saudi Arabia's New Approach in Iraq," *Center for Strategic and International Studies*, last modified 6 November 2018, <https://www.csis.org/analysis/saudi-arabias-new-approach-iraq>.

134 "Joint Statement by HR/VP Mogherini and Iraqi Foreign Minister Alhakim on the EU-Iraq Relations and Regional Cooperation," *European Union External Action*, last modified 13 July 2019, <https://eeas.europa.eu/headquarters/headquarters-homepage/65415/joint-statement-hrvp-mogherini-and-iraqi-foreign-minister-alhakim-eu-iraq-relations-and-fi>.

135 Javi López, "Iraq: Back to Square One," *European Council on Foreign Relations*, last modified 29 March 2018, https://www.ecfr.eu/article/commentary_iraq_back_to_square_one.

136 Ibid

137 Ibid

138 Pasha Magid, "How Europe Is Handing Off Its ISIS Militants to Iraq," *Foreign Policy*, last modified 14 June 2019, <https://foreignpolicy.com/2019/06/15/how-europe-is-handing-off-its-isis-militants-to-iraq/>.

139 Ibid

140 Ibid

implement a more comprehensible security structure through education and training, and the use of these military bases are also used in order to aid humanitarian and social issues. Recently however, all foreign military bases in Iraq are at the possibility of being evicted.¹⁴¹ Members of the Iraqi parliament are currently in the process of removing all forms of foreign military bases in Iraq.¹⁴² For the United States and European countries having their military bases removed from Iraq will be one step backwards instead of forward in countering external influences in Iraq.

BRICS and Emerging Investors

Oil is currently at the heart of Iraq's relationship with countries in Asia, and states such as China and South Korea import a significant amount of oil used from Iraq. Geographically, Iraq and the general MENA region is located in the center of central, southern Africa and East, South, and Southeast Asia. Recently, countries like China have tried to further promote diplomatic ties with not only Iraq, but also the general MENA region. China's large influence over its allied countries have shown that benefits from diplomatic ties done by China can trickle down and be felt by its allies or neighboring countries. In 2019, South Korean relations with Iraq revolve around oil and infrastructure and Iraq's oil is the third largest import for South Korea.¹⁴³ As the demand for clean and natural gas increases, the need for Iraqi oil will increase. Under infrastructure relations, South Korea have different firms and businesses both in Iraq and the greater MENA region.¹⁴⁴ These businesses allow for the development of the overall private sector and aid in the creation of roads and buildings, and the continuation of this partnership will allow Iraq to diversify its economy. China has recently put a lot of effort in further fostering diplomatic ties with Iraq. Much of the partnerships

between the two countries have fallen under the theme of infrastructure. In 2018, China invested USD 23 billion to Arab states including Iraq order to foster infrastructure.¹⁴⁵ China has also used their immense infrastructure project “**Belt and Road Initiative**” (BRI) as a way to foster further diplomatic relationships in Iraq.¹⁴⁶ Currently, there are ongoing discussions about the early stages of implementing different infrastructures across the MENA region.¹⁴⁷ The possible different infrastructure projects that can arise as a result of these discussions would connect China and surrounding nations to nations in MENA. This path of connectivity will allow both countries to have quicker access to technology and natural resources. With China already importing a portion of their oil used from Iraq, this new line of connectivity will allow China to have access to oil.

Multilateral groups such as BRICS, an alliance between Brazil, Russia, India, China and South Africa, have stressed the importance of economic development in Iraq without a substantial aid or influence from external forces.¹⁴⁸ As a group of states, they are passionate about Iraq building and developing their economy as independently as possible. Developing and strengthening an economy without the dependency of foreign influence. The presence of a powerful foreign country for an extended period of time could in the long run would hurt Iraq's economy overall as supposed to aiding them. Russia has specifically pointed out the negative effects of foreign interference in Iraq and how these effects can still be seen today.¹⁴⁹

Committee Mission

Currently, the World Bank has been at the forefront of a global effort called the “Human Capital Project,” which is the culmination of different development projects that will promote

141 Geneive Abdo, “Iraq Prepares to Evict U.S. Troops,” *Foreign Policy*, last modified 20 March 2019, <https://foreignpolicy.com/2019/03/20/iraq-prepares-to-evict-u-s-troops/>.

142 Ibid.

143 John Calabrese, “Bridge to a Brighter Future? South Korea's Economic Relations with the Gulf,” *Middle East Institute*, last modified 8 January 2019, <https://www.mei.edu/publications/bridge-brighter-future-south-koreas-economic-relations-gulf>.

144 Ibid.

145 Laura Zhou, “China Pledges US\$23 Billion in Loans and Aid to Arab States,” *South China Morning Post*, last modified 10 July 2018, <https://www.scmp.com/news/china/diplomacy-defence/article/2154642/china-pledges-us23-million-loans-and-aid-arab-states-it>.

146 Ibid.

147 Ibid.

148 “BRICS against foreign interference in Iraq-summit declaration,” *Tass*, last modified 9 July 2015, <https://tass.com/world/807385>.

149 “Learn from Iraq, Libya Lavrow warns US,” *The BRICS Post*, last modified 13 April 2018, <https://www.thebricspost.com/learn-from-iraq-libya-lavrov-warns-us/>.

economic growth and equity among individuals of different countries. These have fallen under a ray of different topics such as promoting entrepreneurship, education investment on different levels, job creation are some of the socio-economic issues which the project is attempting to address.¹⁵⁰ Besides the goal of reducing unemployment across different ages, a significant aim of this project is to aid in reducing poverty as well as give citizens the necessary tools in order to elevate themselves socio-economically.¹⁵¹ In line with the project and its overall goals, the International Bank for Reconstruction and Development committee will debate and discuss solutions with this project in mind. Delegates in this committee will learn and discover how financial solutions have the capacity to increase the quality of life of citizens.

The committee will navigate and address the different factors that have caused Iraq's overall vulnerable economy and countries will discuss the impact of these factors in context with Iraqi citizens. There will also be discussion regarding the priorities of each different issue which surrounds sustainable development of fossil fuels. Another significant aspect of the committee will be the different financial ways to maintain the success of current or past closed project. Within the IBRD, countries will address different financial tools which Iraq will benefit from creating a stable economy. Although the initiatives proposed in these loan proposals will have a significant effect on citizens within Iraq, specific initiatives in loan proposals should focused on economically and financially based initiatives. The different financial tools that are commonly seen in the bank's loan proposals are examples of financial and economic centered solutions. It is significant to note that due to the limitations and responsibilities of the bank, loan proposals should not be politically centered, nor should they advise Iraq to change specific policies. Solutions in this committee will outline the different issues surrounding fossil fuel in Iraq and how financial advice and loans are the foundational tools in which Iraq needs in order to create a more sustainable sector. It is also important to keep in mind these solutions should be a medium that combines what is in the best interest of Iraq and the country's role in the global oil market and economy. The overall goal of this committee is

to not only foster the current relationship between Iraq and the IBRD, but also the foundation for economic and financial partnership between Iraq and different countries.

¹⁵⁰ "Human Capital Project: A Project for the World," *World Bank*, accessed 30 October 2019, <https://www.worldbank.org/en/publication/human-capital>.

¹⁵¹ Ibid.



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TOPIC B: NEGLECTED TROPICAL DISEASES IN INDIA

Photo Credit: Sistik

Loan Request

India seeks financial assistance and guidance to gain better control of the growing presence of neglected tropical diseases (NTDs). This loan request will holistically address priority issues in factors that contribute to the growing impact of NTDs. Throughout each section of the loan request, delegates will need to consider which resources will be universally used, and which will be used in specific elements of the request. Certain ubiquitous items to addressing NTDs in India, such as medical supplies, transportation costs, etc., will be necessary to fulfill many of the goals of the loan request. Many commodities, however, will prove unique to particular objectives. India is requesting a large scale, comprehensive loan of approximately **USD 770–1170 million** from the IBRD aimed at expanding the country's knowledge base of NTDs, improving public health outreach, developing infrastructure and sanitation management, and providing relief to its most vulnerable populations affected by NTDs. The loan request is by no means restrictive to the drafting of the Bank's final loan proposal. However, delegates should look to it as a general blueprint of India's funding requests.

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| <p>I. Approximate Total Request USD 770–1170 million</p> <p>II. Improving identification, research, and general knowledge of NTDs and their effects in India: general estimate request USD 125–200 million</p> <p>A. Sub Initiatives outlining the mechanism and financial instrument of new survey efforts</p> <ol style="list-style-type: none"> 1. Clearly delineating the labor supply 2. Detailing the necessary human capital and training protocols, as well as the implementation of these efforts 3. Outlining a clear strategic focus; sending surveyors where information is most scarce and most needed <p>B. Sub Initiatives aimed at standardizing best practices for prevention and eradication</p> <p>C. Sub Initiatives Expanding and improving research and data collection on NTDs in India, cost-effective solutions, and best practices for treatment and response</p> <ol style="list-style-type: none"> 1. India has an interest in establishing a national database on NTDs throughout the country 2. Research and Development aimed at re- | <p>ducing costs and improving the efficacy of health-sector capital, such as pharmaceuticals</p> <p>III. Direct Prevention and Eradication Efforts: general estimate request USD 350–500 million</p> <p>A. Sub Initiatives establishing permanent outreach and supply distribution channels in neglected areas</p> <p>B. Sub Initiatives detailing approximate amounts of equipment, supplies, and commodities needed for prevention and eradication efforts</p> <p>C. Sub Initiatives that address the unsustainable conditions in the housing department which will:</p> <ol style="list-style-type: none"> 1. Increase the accessibility of sustainable and durable infrastructure in order to promote higher standards of households which is one measure to prevent NTD transmission 2. Enhance the accessibility of public services and infrastructure in rural areas in order to increase the quality of life <p>D. Sub Initiatives expanding and updating public health access, administration, and infrastructure</p> |
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- E. Sub Initiatives detailing transportation and distribution mechanisms and channels
- F. Sub Initiatives tackling sanitary concerns across the country and their significant impact to the contraction of NTDs
 - 1. Renovating and expanding the current sewage system in order to increase potable water access
 - 2. Significant overhauls in waste management in densely populated cities
- G. Sub Initiatives proposing economical overhauls of outdated and infected sewage networks
 - 1. Re-piping large networks
 - 2. Modernizing local, isolated community sanitation centers

IV. Promoting Preventative measures in cities and rural areas country-wide: general estimate request **USD 200–325 million**

- A. Sub Initiatives that highlight education about NTDs for:
 - 1. Citizens to be more informed on ways which attract NTDs
 - 2. non-medicinal preventative practices that can prevent contracting NTDs
 - 3. Education projects such as this will also encompass visible common and uncommon symptoms of different NTDs to further provide targeted citizens with further knowledge about NTDs
- B. Sub Initiatives that invest in rural areas
 - 1. Increasing the quality of life of citizens
 - 2. Increasing the number of economic opportunities for those in rural areas
- C. Sub Initiatives committing to creating new med-

ical institutions and training programs, with a particular focus on more remote areas

- 1. Development of new university sites and curricula aimed at training medical professionals
- 2. Expansion of non-strictly academic medical training programs and institutions at the local level in rural areas
- 3. Scholarships, grants, and endowments to leading ideas, researchers, professionals, and institutions

V. Increasing Medical Service Response and Infrastructure: general estimate request **USD 95–145 million**

- A. Sub Initiatives which address the accessibility to medical services in both hyper-urbanized and rural areas
 - 1. Ensure that citizens have access to health care treatments if contracted with NTDs
 - 2. Analyzing where medical investments and capital are needed
 - 3. Provide extensive training in all medical staff and personnel to ensure positive treatment experiences
 - 4. Educate citizens on the importance of sanitation
- B. Sub Initiatives expanding electric networks to vulnerable regions and communities
- C. Sub initiatives which analyze different areas in which India's current healthcare system can be improved upon
 - 1. Promoting the accessibility and affordability of adequate health care in all areas of the country
 - 2. Discovering different ways in which medical treatments and options could be more

affordable to citizens

Strategic Focus

Neglected tropical diseases (NTDs) are a group of infectious diseases that thrive in tropical and subtropical conditions, primarily concentrated in developing regions of India where there is a lack of clean water, sanitation, and proper healthcare.¹ Their effect on communities has been dubbed by the World Health Organization (WHO) as a “vicious cycle of poverty and disease.”² Infected individuals, with children being the most vulnerable, can develop symptoms that disfigure, cripple, and isolate them from society.³ They are considered “neglected” because of the diseases’ affinity to affect those living around the poverty line, which, in the case of contraction, can push individuals under the poverty line or deeper into poverty.⁴

Given that the problem has no clear solution, the focus of this background guide will begin by identifying the key factors and points required to mitigate the issue. There are six clear components: identification of the diseases and the medication required to combat them, providing a general understanding of the public health system in India as well as its shortcomings, the lack of human capital in the public health workforce, the economic status of the pharmaceutical industry in India and how it can help, the current status on infrastructure and development in urban and rural areas, and finally, the status of water and sanitation in rural and urban areas.

When writing the loan proposal, the most important aspect is to know the NTDs that affect India and what medication is needed to estimate costs; also, identifying the primary means of transmission so as to know where to break the chain of infection. Additionally, failure to control NTDs, all of which

are entirely preventable through medication, sanitation, and access to proper healthcare, implies a failure of the Indian public health system in its inability to control the spread of preventable diseases, as well as other failures such as corruption and inability to provide affordable services. India’s public health system is further disadvantaged by a shortage of medical workers, leading to misdiagnosis and citizens’ distrust in modern medicine, forcing them to turn to traditional healers. Determining ways to involve more citizens in the public health sector would not only bolster public health worker availability, but also allow citizens to take an active role in their health and well-being.

Considering the economic status of India’s massive pharmaceutical market means identifying possible routes for return on investment in the health capital sector, which is important for ensuring sustainability and competitive pricing for drugs required to treat NTDs. This guide will also explore the lack of infrastructure development in rural areas, which often causes shortages in supplies and interferes with a hospital’s ability to function normally.⁵ Identifying these issues is a key step in solving the overall problem. Water management is the final area of focus that has large and nearly universal economic implications for India. Water is a primary conductor for transmission of NTDs, with examples including it being a breeding place for mosquitoes carrying parasites or feces-contaminated soil being carried to another place by the water.⁶

After identifying the points, the next step for delegates is to find previous case studies and estimate costs. Tools for identifying costs are outlined in the Feasibility section, where quotes are provided for the cost of delivery so as to facilitate the loan-proposal writing process. In addition, previous case studies provide a framework to improve upon and draw inspiration to write the loan proposal. The Feasibility section also contains

1 “WHO | Neglected Tropical Diseases,” *World Health Organization*, accessed 11 September 2019, http://www.who.int/neglected_diseases/diseases/en/; “Neglected Tropical Diseases | NIH: National Institute of Allergy and Infectious Diseases,” *National Institute of Allergy and Infectious Diseases*, accessed 29 July 2019, <https://www.niaid.nih.gov/research/neglected-tropical-diseases>.

2 WHO, *Water sanitation and hygiene for accelerating and sustaining progress on neglected tropical diseases: A global strategy 2015-2020*, accessed 14 September 2019, http://www.who.int/water_sanitation_health/publications/wash-and-ntd-strategy/en/.

3 “WHO | Why Are Some Tropical Diseases Called ‘Neglected?’,” *WHO*, accessed 11 September 2019, <https://www.who.int/features/qa/58/en/>.

4 “Arguing for universal health coverage,” *WHO*, accessed 30 October 2019, https://www.who.int/health_financing/UHC_ENvs_BD.PDF.

5 “India Infrastructure Analysis,” *India Brand Equity Foundation*, accessed 16 September 2019, <https://www.ibef.org/industry/infrastructure-presentation>.

6 WHO, *Crossing the Billion. Preventive chemotherapy for neglected tropical diseases Lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma*.

analysis on financial tools such as return on investment, which includes identification of areas that the proposal could be invested towards to ensure that revenue is being generated for the loan to be repaid. Strategic interests of countries are particularly relevant when attaching conditions to the loan proposal. The following information serves as a comprehensive report that aims to best inform delegates of how to outline the most feasible, impactful loan proposal possible.

Profile of Neglected Tropical Diseases in India

According to a 2018 study published in PLoS, India's 11 most common NTDs are highly concentrated in the country's poverty-stricken areas.⁷ In fact, the three most common NTDs were soil-transmitted helminth infections, which are parasitic infections that spread through soil contaminated with human feces contain the eggs of the worms.⁸ These eggs mature and hatch in the soil, where infection can occur through ingestion of eggs from harvested crops, or larvae burrowing into bare feet standing in the soil.⁹ A particularly gruesome helminth infection, ascariasis, occurs when a human ingests the eggs of *ascaris lumbricoides*, a large roundworm from human fecal matter.¹⁰ Fecal ingestion can occur from improper sanitation of water, which is used as irrigation for crops or from using feces as fertilizer.¹¹ Open defecation, still practiced by 40% of the population, also perpetuates the problem.¹² Once ingested, the eggs hatch in the intestines, burrow through the intestinal

wall, and enter the bloodstream where they eventually mature in the lungs and migrate to the intestines.¹³ There, they compete for nutrients with the host, mate, and release thousands of eggs, which end up in feces and the cycle begins again.¹⁴ In India, 225 million children are affected by soil-transmitted helminth infections, which primarily target children due to their affinity to play in the soil.¹⁵ Effects of the diseases in children included stunted growth, malnutrition, and decreased physical strength, which go on to delay childhood cognitive development and therefore future income potential.¹⁶

Other diseases, such as dengue fever and lymphatic filariasis, are **vector-borne diseases** spread through vectors such as mosquitoes.¹⁷ **Lymphatic filariasis** is the infection of the lymphatic system from three species of parasitic worms.¹⁸ The infection causes can cause permanent disabilities, with 3.8% to 8.0% of potential male labor in India lost to its morbidity, costing the Indian economy approximately USD 704 million annually.¹⁹ Even more crippling is **trachoma**, a bacterial infection of the eyes which results in blindness.²⁰ This blindness is irreversible, but can be completely prevented with a low-cost antibiotic, azithromycin.²¹ Globally, it is estimated that the loss of productivity associated with trachoma can cost economies USD 2.9–5.3 billion annually.²²

Dengue fever, a viral infection, affects all ages of the population and is spread through a particularly resilient species

7 Peter J. Hotez and Ashish Damania, "India's Neglected Tropical Diseases," *PLoS Neglected Tropical Diseases* 12, No. 3 (22 March 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5863936/>.

8 "Soil-Transmitted Helminth Infections," *WHO*, accessed 7 July 2019, <https://www.who.int/news-room/fact-sheets/detail/soil-transmitted-helminth-infections>.

9 Ibid.

10 "WHO | Water Related Diseases," *WHO*, accessed 7 July 2019, http://www.who.int/water_sanitation_health/diseases-risks/diseases/ascariasis/en/.

11 Ibid.

12 "People Practicing Open Defecation (% of Population) | Data," *World Bank*, accessed 8 July 2019, https://data.worldbank.org/indicator/SH.STA.ODFC.ZS?most_recent_value_desc=true.

13 Ibid.

14 Ibid.

15 Dilip Abraham et al., "Intervention Strategies to Reduce the Burden of Soil-Transmitted Helminths in India," *The Indian Journal of Medical Research* 147, No. 6 (June 2018): 533–44, <https://www.ncbi.nlm.nih.gov/pubmed/20161896>.

16 Ibid.

17 "Dengue and Severe Dengue," *WHO*, accessed 7 July 2019, <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>.

18 "WHO | Epidemiology," *WHO*, accessed 7 July 2019, http://www.who.int/lymphatic_filariasis/epidemiology/en/.

19 Lukyn M. Gedge et al., "Economic Evaluations of Lymphatic Filariasis Interventions: A Systematic Review and Research Needs," *Parasites & Vectors* 11 (1 February 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5793442/>.

20 "Trachoma," *World Health Organization*, last updated 27 June 2019, <https://www.who.int/news-room/fact-sheets/detail/trachoma>.

21 Ibid.; WHO, *Crossing the Billion. Preventive chemotherapy for neglected tropical diseases Lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma*.

22 "Trachoma."

of mosquitoes, *Aedes aegypti*.²³ Although the disease itself is similar to the common flu, it has the potential to develop into severe dengue, a lethal form of the infection.²⁴ Severe dengue occurs when it cannot be fought off, causing vomiting, bleeding gums, blood in vomit, among other symptoms.²⁵ The danger of the disease lies in this critical stage - if the patient does not receive proper medical care within 24 to 48 hours, it can be fatal.²⁶ In 2016, there were approximately 53 million cases of symptomatic dengue, with an overall cost of USD 5.71 billion for which 14.3% was allocated to fatal cases.²⁷ Dengue becomes increasingly worrisome as global incidences rise and half of the world's population becomes at risk of contracting the disease.²⁸

Neglected Tropical Disease Prevention

In the vast majority of cases, humans become infected with NTDs due to a lack of knowledge on the importance of sanitation and a lack of access to clean water.²⁹ Coming in contact with livestock, using improperly irrigated water for farming, and having little to no access to medical treatment means that impoverished communities are the primary targets for transmission of these diseases.³⁰ Due to the infections' epidemiology, citizens without proper access to basic and medical infrastructure, such as those in isolated poverty, are at the highest risk of contracting a NTD.³¹ Their toll on the healthcare sys-

tem and affinity for affecting poverty-stricken populations have contributed to what the World Health Organization refers to as a "vicious cycle of poverty and disease."³²

In urban regions, overcrowding and improper sanitation in slums and other impoverished areas leads to mass infections of the population.³³ Moreover, the current booming private healthcare system and lack of government investment in public health means that public hospitals are filled to the brim and impoverished citizens living in urban areas are unable to find treatment for NTDs.³⁴ Often, these people must pay significantly larger sums of money as bribes for public healthcare services that were pledged by the government to be free.³⁵

Worker migration, especially in the health sector, has severely impacted access to health services in rural communities.³⁶ The density of healthcare workers per urban citizen is 4 times greater than that of the rural density.³⁷ Even more alarming is the dependence on Ayurvedic medicine, where, according to a 2013 study, 70% of the rural Indian population relied on this system.³⁸ Ayurveda is the most advanced type of traditional Indian medicine, and has been analyzed by the National Center for Complementary and Integrative Health in the United States to have little scientific evidence for effective treatment of health issues.³⁹ The ineffective practice of traditional medicine such as this can mean patients will remain crippled forever as a result of their infections. Moreover, the

23 "WHO | What Is Lymphatic Filariasis," *WHO*, accessed 17 July 2019. http://www.who.int/lymphatic_filariasis/disease/en/.

24 Ibid.

25 Ibid.

26 Ibid.

27 Dhvani Hariharan et al., "Economic Burden of Dengue Illness in India from 2013 to 2016: A Systematic Analysis," *International Journal of Infectious Diseases* 0, no. 0 (11 January 2019), [https://www.ijidonline.com/article/S1201-9712\(19\)30021-9/abstract](https://www.ijidonline.com/article/S1201-9712(19)30021-9/abstract).

28 "Dengue and Severe Dengue."

29 "WHO | Neglected Tropical Diseases."

30 "Trachoma."

31 WHO, *Water sanitation and hygiene for accelerating and sustaining progress on neglected tropical diseases: A global strategy 2015-2020*.

32 Ibid.

33 Ramnath Subbaraman and Sharmila L. Murthy, "WHO | The Right to Water in the Slums of Mumbai, India," *WHO*, last updated 6 October 2015, <http://www.who.int/bulletin/volumes/93/11/15-155473/en/>.

34 Amit Sengupta and Samiran Nundy, "The Private Health Sector in India," *BMJ : British Medical Journal* 331, No. 7526 (19 November 2005): 1157–58, <https://www.bmj.com/content/331/7526/1157>.

35 Yarlina Balarajan, S Selvaraj, and S V Subramanian, "Health Care and Equity in India," *Lancet* 377, No. 9764 (5 February 2011): 505–15, <https://www.ncbi.nlm.nih.gov/pubmed/21227492>.

36 Margaret Walton-Roberts et al., "Causes, Consequences, and Policy Responses to the Migration of Health Workers: Key Findings from India," *Human Resources for Health* 15, No. 1 (5 April 2017): 28, <https://www.ncbi.nlm.nih.gov/pubmed/28381289>.

37 Sudhir Anand and Victoria Fan, "WHO | The Health Workforce in India," *Human Resources for Health Observer*, No. 16 (June 2016), http://www.who.int/hrh/resources/hwindia_health-obs16/en/.

38 M. M. Pandey, Subha Rastogi, and A. K. S. Rawat, "Indian Traditional Ayurvedic System of Medicine and Nutritional Supplementation," *Evidence-Based Complementary and Alternative Medicine* 2013, (2013), <https://www.hindawi.com/journals/ecam/2013/376327/>.

39 B Ravishankar and VJ Shukla, "Indian Systems of Medicine: A Brief Profile," *African Journal of Traditional, Complementary, and Alternative Medicines* 4, No. 3 (16 February 2007): 319–37, <https://www.ncbi.nlm.nih.gov/pubmed/20161896>; "Ayurvedic Medicine: In Depth," *National Center for Complementary and Integrative Health*, last modified 1 August 2008, <https://nccih.nih.gov/health/ayurveda/introduction.htm>.

increased side effects of modern drugs can push rural citizens away from professional care.⁴⁰ The effect on rural citizens conclusively shows that the unfamiliarity and distrust in modern medicine in rural areas presents an additional hurdle to curing patients infected by NTDs. Overcoming this barrier is time-consuming and can result in the diseases progressing to the point of fatality.

One of the World Health Organization's approaches to combating several NTDs is through preventive chemotherapy.⁴¹ This is also known as mass drug administration (MDA).⁴² Administration of drugs designed to combat NTDs, across communities and regardless of whether or not a positive diagnosis has been made has been shown to treat populations affected by or at risk of contracting NTDs.⁴³ These drugs can reduce the length of suffering and long-term impacts of the disease in infected individuals. Preventive chemotherapy is incredibly cost-effective; treatment ranges from USD 0.30–0.50 per person and remains the most affordable strategy to controlling these NTDs.⁴⁴ Notably, the World Health Organization is collaborating with major pharmaceutical companies such as Johnson & Johnson, Eisai Pharmaceuticals India and Pfizer for donations of hundreds of millions, sometimes billions, of tablets of medicine to eradicate NTDs.⁴⁵ Ironically, India is one of the largest producers of this medicine; in 2015, of the 6.2 billion treatments delivered, 66% of these treatments wound up in India.⁴⁶ Evidently, large-scale **public-private partnerships** (PPP) such as these are needed to combat the NTDs problem in India, whether in the form of donations or price-negotiated drugs.

40 Pandey, Rastogi, and Rawat, "Indian Traditional Ayurvedic System of Medicine and Nutritional Supplementation."

41 "Trachoma"; "WHO | Preventive Chemotherapy and Transmission Control (PCT)," *WHO*, accessed 8 July 2019, https://www.who.int/neglected_diseases/preventive_chemotherapy/information/en/.

42 Joanne P. Webster et al., "The Contribution of Mass Drug Administration to Global Health: Past, Present and Future," *Philosophical Transactions of the Royal Society B: Biological Sciences* 369, No. 1645 (19 June 2014), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4024227/>.

43 Ibid.

44 WHO, *Crossing the Billion. Preventive chemotherapy for neglected tropical diseases Lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma*.

45 Ibid.

46 Ibid.

47 "Vector-Borne Diseases," *WHO*, last modified 31 October 2017, <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>.

48 Ibid.

49 Ibid.

50 P. Jambulingam et al., "Insecticide Treated Mosquito Nets for Malaria Control in India-Experience from a Tribal Area on Operational Feasibility and Uptake," *Memórias Do Instituto Oswaldo Cruz* 103, No. 2 (March 2008): 165–71, <https://www.ncbi.nlm.nih.gov/pubmed/18392548>.

51 Indrani Gupta and Mrigesh Bhatia, "India : International Health Care System Profiles," *The Commonwealth Fund*, accessed 25 July 2019, <https://international.commonwealthfund.org/countries/india/>.

52 Ibid.

53 Ibid.

NTDs such as VL, discussed above, are spread through vectors, which are intermediary animals carrying infectious microorganisms from one animal to infect the next.⁴⁷ Example vectors include mosquitoes, flies, ticks, and some freshwater snails.⁴⁸ NTDs such as dengue fever, lymphatic filariasis, and VL are spread through the bites of airborne insects like sand flies and mosquitoes, thus prevention of contact is absolutely necessary to combat NTDs.⁴⁹ Insecticide-treated mosquito nets, which come in both long-term and regular-term durability, are also highly cost-effective and useful in preventing transmission, as shown in mass distribution programs in India to combat the mosquito-borne disease malaria.⁵⁰

Public Health

India's public healthcare sector is vastly underdeveloped.⁵¹ In principle, public health services should be accessible to any citizen, but due to the growing population and a shortage of providers, **demand** for health services in India are extremely high, while **supply** has remained consistently low; this has resulted in the **excess demand** of patients seeking public health services to look toward the **substitute good**: service in the private health sector.⁵² In fact, better customer service due to higher salaries in the private sector has increased the demand for private healthcare to the point at which up to 69% of total health expenditures are for private services, and less than 20% of citizens are actually covered by any form of health insurance.⁵³ While preventive and primary care, diagnostic services, and outpatient and inpatient hospital care are all meant to be universally covered for the public, the reality



Apollo Hospital in New Delhi, India

of medical worker and supply shortages force citizens to bribe hospitals to receive treatment.⁵⁴ Paying for healthcare, however, drives approximately 35 million Indians into poverty each year, where they become increasingly vulnerable to NTDs, and those in poverty affected by NTDs are even more unable to access treatment for diseases.⁵⁵ Vaccinations, medication from the essential drugs list, diagnostics, and treatment for vector-borne diseases (ex. dengue), as well as maternal health and child healthcare, are also pledged to be free.⁵⁶

A systemic lack of resources and **human capital** in the public health sector could be caused by India's comparatively low amount of government investment. An Economist article published in 2018 stated that government expenditure on health was merely 1.1% of the country's **GDP**, far less compared to countries at similar levels of development such as

Brazil, Thailand, or China.⁵⁷

The system itself is divided into primary, secondary, and tertiary facilities.⁵⁸ Primary health care provides services to patients in rural areas, and is divided into a network of primary health centers, sub-centers, and community health centers.⁵⁹ The sub-centers are the first point of contact between primary health care services and rural communities, and are designed to handle a population of 3,000 to 5,000 local citizens, work in maternal and child health, disease control, and health counseling.⁶⁰ Moving up in scale, six sub-centers refer to a primary health center, where preventive and curative services are located; these have a medical officer and about four to six beds to house patients, and oversee a population of 20,000.⁶¹ Even higher up the scale is the community health center, which are directly managed and maintained by state governments.⁶²

54 Ibid.

55 Balarajan, Selvaraj, and Subramanian, "Health Care and Equity in India."

56 Gupta and Bhatia, "India : International Health Care System Profiles."

57 "India's Government Launches a Vast Health-Insurance Scheme," *The Economist*, last modified 27 September 2018, <https://www.economist.com/asia/2018/09/27/indias-government-launches-a-vast-health-insurance-scheme>.

58 M Chokshi et al., "Health Systems in India," *Journal of Perinatology* 36, no. Suppl 3 (December 2016): S9–12, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5144115/>.

59 Ibid.

60 Ibid.

61 Ibid.

62 Ibid.

These are required to have four medical specialists, 21 paramedics, and other support staff, and each is responsible for a population of around 120,000 people.⁶³

Despite this highly organized structure, health care in India is still grossly lacking, especially in urban areas where there is no system in place to manage the massive population.⁶⁴ This is reflected in the urban poor: almost 60% of urban poor children have not had their essential vaccines before the age of one, putting slums at particular risk of spreading NTDs.⁶⁵ As previously analyzed, poor populations face the most exposure to NTDs, along with challenges related to living in close quarters without proper sanitation and lacking sufficient vaccinations for children, thereby put the entire community at risk of a disease to rapidly become **endemic**. In rural areas, poor infrastructure, such as unreliable electricity and water supply, along with multiple reports of neglect of repairs, have caused the public health structure to fall into disarray.⁶⁶

Lastly, public health administration in India has been neglected since the colonial era, and there has never been a unified Public Health Act in the country.⁶⁷ Although the central government put together a Model Public Health Act in 1950, with a revision in 1987, there was never any push for the states to adopt such an act, and thus the government's commitment to guarantee quality healthcare to its citizens has never been appropriately undertaken.⁶⁸

Costs of Privatized Health

Nearly 70% of hospitals and 40% of hospital beds in India are private.⁶⁹ In fact, India has a growing USD two billion business

in the medical tourism industry, where patients from abroad visit highly trained Indian specialists.⁷⁰ The government has a high incentive to invest in this sector, and a World Bank report confirms: India spends more per capita than most developing countries on investment in tertiary health services, primarily due to the near USD nine billion value of the medical tourism industry, which is the practice of foreigners visiting specialists in India for treatment.⁷¹

What the current market does not act upon, however, is that in relation to long-term costs, the **opportunity cost** of the small amount of profit gained from medical tourism is greater than the expense of investing in affordable health insurance and access to public health. Data from 2016 from the World Bank identified USD 62.72 per capita in government health-care spending, or average spending per person, towards public health in India.⁷² This is in comparison with USD 398.33 per capita in China, and USD 221.92 per capita in Thailand, countries that are experiencing similar socio-economic development to India.⁷³ With diseases such as trachoma and lymphatic filariasis costing the economy billions annually, eradication of these infections and their long-term crippling effects would mean recovering the losses previously identified for the diseases. Another long-term solution could be the development of universal healthcare. As analyzed by an article in *The Economist*, the sick cannot participate in the markets and increase costs to society that would otherwise not exist.⁷⁴ Parasite-infested areas mean that land is not suitable for agricultural or tourist development and the results of several studies have pointed to the probable cause that accessible healthcare is a key driver of economic growth.⁷⁵

63 Ibid.

64 Gupta and Bhatia, "India : International Health Care System Profiles."

65 Ibid.

66 Ibid.

67 Monica Das Gupta, "Public Health In India: An Overview," *Social Science Research Network*, last modified 5 January 2006, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=873895###.

68 Ibid.

69 Sunita R. Nair, "Relevance of Health Economics to the Indian Healthcare System: A Perspective," *Perspectives in Clinical Research* 6, no. 4 (2015): 225–26, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4640018/>.

70 Ibid.

71 Gupta, "Public Health In India : An Overview"; Manveena Suri, "India Wants to Make Medical Tourism a \$9 Billion Industry by 2020," *CNN*, last modified 15 February 2019, <https://www.cnn.com/2019/02/13/health/india-medical-tourism-industry-intl/index.html>.

72 "Current Health Expenditure per Capita (Current US\$) | Data," *World Bank*, accessed 13 July 2019, <https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD>.

73 Ibid.; "India's Government Launches a Vast Health-Insurance Scheme."

74 "Universal Health Care, Worldwide, Is within Reach," *The Economist*, 26 April 2018, <https://www.economist.com/leaders/2018/04/26/universal-health-care-worldwide-is-within-reach>.

75 Ibid.; "Both in Rich and Poor Countries, Universal Health Care Brings Huge Benefits," *The Economist*, last modified 26 April 2018, <https://www.economist.com/special-report/2018/04/26/both-in-rich-and-poor-countries-universal-health-care-brings-huge-benefits>.

A simple strategy would be to model after countries in similar developmental stages. In Thailand, spending just USD 220 per capita yields results similar to countries in the Organization for Economic Cooperation and Development (OECD).⁷⁶ A case study into the return on investment of such a project for Thailand is discussed in the Feasibility section. In Rwanda, having clinics focused on combating HIV/AIDS also distribute medication for other diseases centralizes the system to prevent valuable resources from being wasted, using pre-established channels for distribution to also distribute supplies to combat other diseases.⁷⁷

Recently, India's Prime Minister Narendra Modi has taken steps to launch a national insurance policy that will greatly benefit India's poorest half-billion citizens. The plan, named *Ayushman Bharat*, meaning Long-Life India, aims to establish a safety net that will give any family that meets the criteria of need up to USD 7,000 in coverage in hospital expenses per year.⁷⁸ There is no fee to be paid by these citizens; instead, the amount is drawn from premiums paid by the state to private insurance companies, in what seems to be a revolutionary policy change for the poorest Indians.⁷⁹ In spite of criticism surrounding underfunding and the expensiveness of working through private insurers rather than nationalizing health care, this policy means patients affected by NTDs, which are typically the poorest citizens, bear less of the burden of disease and are not further pushed into poverty for seeking medical treatment.⁸⁰

Human Capital Development

For all solutions ranging from treatments for NTDs to revo-

lutionary changes in the public health care system, eradication of NTDs also requires a robust health workforce. Severe deficiencies in the national doctor to patient ratio, at 0.8:1000 in 2016 compared to the WHO standard of 1:1000, is perhaps the root of the problem with NTDs.⁸¹ India's shortage of doctors has deep systemic roots that prevent simple employment of more doctors from acting as an effective solution; a 2016 study by the World Health Organization on the health workforce in India revealed that less than a quarter of medical workers actually had a medical qualification.⁸²

One virtually untouched pool of potential human capital in the country is women, who face systematic cultural barriers to entering the job market.⁸³ In fact, the female employment rate has fallen from 35% in 2005 to 26% in the present day.⁸⁴ Analysis by *The Economist* showed that contrary to original beliefs, the higher the education of an Indian woman, the more likely she is to be unemployed.⁸⁵ Parents seem to be sending their daughters to school to find better marriage prospects, a distortion of education's traditional role as an engine of human capital development.⁸⁶ Of the 36 million jobs that India has generated since 2005, women only hold 10%.⁸⁷ If India were to balance its workforce so that female employment matched that of males, India would have an extra 235 million workers, and *The Economist* estimates that the Indian economy would be 27% richer and citizens would be well on their way to middle-income status.⁸⁸ Although cultural conservatism plays a huge factor, a shortage of traditionally female-held jobs are also preventing a mass influx of women from entering the labor force.⁸⁹ One potential solution to engaging more women in efforts to combat NTDs is employment of

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ "India's Government Launches a Vast Health-Insurance Scheme."

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ "Physicians (per 1,000 People) | Data," *World Bank*, accessed 14 July 2019, <https://data.worldbank.org/indicator/SH.MED.PHYS.ZS>; "WHO | Density of Physicians (Total Number per 1000 Population, Latest Available Year)," *WHO*, accessed 14 July 2019, http://www.who.int/gho/health_workforce/physicians_density_text/en/.

⁸² Anand and Fan, "WHO | The Health Workforce in India."

⁸³ "Culture and the Labour Market Keep India's Women at Home," *The Economist*, last modified 5 July 2018, <https://www.economist.com/briefing/2018/07/05/culture-and-the-labour-market-keep-indias-women-at-home>.

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Ibid.

⁸⁷ "Why India Needs Women to Work," *The Economist*, last modified 5 July 2018, <https://www.economist.com/leaders/2018/07/05/why-india-needs-women-to-work>.

⁸⁸ Ibid.

⁸⁹ Ibid.

nurses, which, based on male to female ratios, are regarded as a traditionally female-dominated field in India.⁹⁰ The lack of medically certified healthcare workers means that nurses are also particularly in demand, and this creates an opportunity for India to maximize its potential.⁹¹ Distribution of medically qualified staff also indicates a high demand for medical human capital, as both urban and rural areas suffer from overall shortages of staff. In rural areas, lack of access to specialized workers and neglect of duty are factors which contribute to the severe lack of medical care in communities.⁹² In addition, corruption and poor customer service, along with overcrowding, affect public healthcare systems in urban areas.⁹³

As with increases in the labor force, increases in human capi-

tal means higher productivity and, in some cases, a transition of the economy into producing goods and services requiring higher skilled labor.⁹⁴ As rising human capital increases productivity per worker, it also increases growth.⁹⁵ Applying human capital to the Indian health workforce, it is evident that this sector has a large potential for employment and development. Training health workers not only provides higher education, but also breaks the **poverty trap**; this is where impoverished communities will typically not invest in **public goods** like health or education because potential investors consider only their own **private benefit** from these goods, while the total societal benefit is often much larger than the cost of proper investments.⁹⁶ Government investment to pro-



Image of a slum in India

90 Anand and Fan, "WHO | The Health Workforce in India."

91 Ibid.

92 Jeffrey Hammer, Yamini Aiyar, and Salimah Samji, "Understanding Government Failure in Public Health Services," *Economic and Political Weekly* 42, No. 40 (2007): 4049–57, https://www.jstor.org/stable/40276648?seq=1#metadata_info_tab_contents.

93 Ibid.

94 Will Kenton, "Reading Into Human Capital," *Investopedia*, accessed 9 July 2019, <https://www.investopedia.com/terms/h/humancapital.asp>.

95 Ibid.

96 Ibid.

vide incentives to study medicine or nursing, offering an opportunity cost lesser than the alternative, could help to break this cycle. Promoting women in taking up nursing roles would also reduce the opportunity cost of them not participating in the labor force. More importantly, preventing transmission of NTDs implies one less factor in the country's systematic causes of poverty. As the World Bank undertakes The Human Capital Project as one of its primary missions currently, this aspect of a loan proposal would be essential to securing approval of the loan.⁹⁷

Health Sector Capital

India is a major exporter of pharmaceuticals, due to the country specializing in making generic versions of expensive, patented drugs in richer countries.⁹⁸ Generic drugs are especially in demand in the largest economy in the world - almost 550 Indian labs supply the American drug market, which is 90% generic.⁹⁹ In fact, these make up about 70% to 80% of the Indian pharmaceutical market.¹⁰⁰ In the WHO report "Crossing the Billion," India was the only state to appear twice on the list of the countries manufacturing the drugs for preventive chemotherapy of NTDs.¹⁰¹ It was one of the manufacturers for albendazole, a medication used for the treatment of soil-infected **helminthiasis**, and is the sole manufacturer for diethylcarbamazine, the medication for **lymphatic filariasis**.¹⁰² Given the size of the donations from collaboration with the WHO, which increases to 2.2 billion tablets of diethylcarbamazine distributed from 2016 to 2020, and the cost, which ranges from USD 0.30–0.50 per tablet, India evidently possesses the production capacity to generate enough pills to distribute

to its NTDs-afflicted populations, which could significantly mitigate the issue.¹⁰³ The question lies in whether or not the government can properly incentivize major pharmaceutical companies to produce sufficient quantities.

Part of the expansion in scope is already underway. An article published in *Nature* in April 2019 y discussed the new clinical trial regulations in India, where international clinical trial research only account for 1.2% of all global clinical trials despite having a high **burden of disease** and the second largest population in the world.¹⁰⁴ New regulations stipulate that the Central Drugs Standard Control Organization now has only 90 days to decide whether or not to approve a drug for global clinical trials, and 30 days to approve domestic trials.¹⁰⁵ This is a massive improvement from a process that once took up to 6 months.¹⁰⁶ For drugs to be approved in the United Kingdom, the European Union, Australia, and Canada, and that affect less than 500 000 Indians, regulators have the power to directly skip phase III and IV clinical trials, which investigate the efficacy and safety of the drug, and long-term effects, respectively.¹⁰⁷ This allows for faster access to the medication for citizens, but one controversial aspect is the possibility that it acts differently in those living in poverty compared to the effects shown in trials in the richer states; this would be a result of different living conditions such as those in nutrition and immune system strength.¹⁰⁸ Nonetheless, a faster approval process for drugs to be used in India means a reduced **barrier to entry** for firms hoping to enter the pharmaceutical industry. In addition, India, which has a very large population and cheap costs to trials, has a strong **comparative advantage**, or

97 "About The Human Capital Project," *World Bank*, accessed 9 July 2019, <https://www.worldbank.org/en/publication/human-capital/brief/about-hcp>.

98 "Indian Drugmakers Need a New Prescription," *The Economist*, last modified 22 March 2018, <https://www.economist.com/business/2018/03/22/indian-drugmakers-need-a-new-prescription>.

99 Ibid.

100 "India Pharma 2020: Propelling access and acceptance, realising true potential," *McKinsey & Company*, accessed 9 July 2019, https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Pharma%20and%20Medical%20Products/PMP%20NEW/PDFs/778886_India_Pharma_2020_Propelling_Access_and_Acceptance_Realising_True_Potential.ashx.

101 WHO, *Crossing the Billion. Preventive chemotherapy for neglected tropical diseases Lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma*.

102 Ibid.

103 Ibid.

104 "India Statistics," *CIA World Factbook*, accessed 16 September 2019, <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>.

105 Ibid.

106 Ibid.

107 Ibid.

108 Ibid.

cheaper costs, in clinical trial administration.¹⁰⁹ An increase in clinical trials performed in India specifically would mean an explosion of data that is increasingly relevant to India's NTD challenges but also increased interest in foreign investment to develop drugs in the country.¹¹⁰

To do so, however, India must strengthen its ethical infrastructure, patent rights, and focus on protecting specialized medicine.¹¹¹ It is not currently maximizing the potential of becoming a hub for international pharmaceutical research. As other countries also enter the generic drug market, the surplus in **supply** could lead to companies offering lower and lower prices to stay competitive. In fact, a report by PricewaterhouseCoopers (PwC), a global financial firm, predicted that by 2020, the generic drug market will have lost about USD 148 billion in revenue; at the same time, investment in research and development (R&D), however, is becoming increasingly costly and progress has essentially stopped within the past few years.¹¹² As a solution, the report recommended that countries in development focus on scaling outwards in the economy, covering impoverished areas with affordable medicine to provide adequate access to healthcare for all citizens instead of attempting to invest large sums into a stagnating industry largely benefiting the rich.¹¹³

Foreign firms in India have always played a part in developing the pharmaceutical industry in the country, but recent acquisitions have led to the Indian government taking regulatory action. **Multinational corporations** (MNCs) such as Mylan, Daichi Sankyo, and Sanofi Aventis absorbed Indian companies Matrix Labs, Ranbaxy, and Shanta Biotech, prompting the Ministry of Commerce and Industry to revise national policy on **Foreign Direct Investments**.¹¹⁴ Increased amounts of

MNCs attempting **FDI** now must seek approval from the Foreign Investment Promotion Board.¹¹⁵ This implies that the government of India is observing too many cases of large MNCs absorbing domestic start-up companies and driving out market competition, thereby monopolizing the industry in India and driving up costs. Incentivizing companies to invest in opening their own branches overseas and organically establish themselves in the market will foster competition and reduce market prices

As one of the biggest producers of generic drugs and a prime environment for clinical trials, the Indian pharmaceutical industry holds many drugs that could be repurposed for treatment of other diseases.¹¹⁶ Unfortunately, firms are unlikely to reinvest in developed drugs, opting instead for the extremely expensive option of developing new medicines instead.¹¹⁷ Although, in theory, generic drugs should follow an abbreviated approval process, the risk of repurposing often results in the same amount of clinical trials, requiring capital and time rivaling the cost of developing a new drug.¹¹⁸ With so much potential, the responsibility of offering incentives to repurposing lies in the hands of the Indian government. Policy that smooths or streamlines the drug approval process in India has significant potential to improve drug accessibility and thus health outcomes in India.¹¹⁹

Infrastructure Development and Rural Coverage

Aside from the maintenance and construction of roads, infrastructure also refers to communication systems, sewage, water, and electrical systems.¹²⁰ India's rural public health system, although highly structured as previously discussed, lacks other

109 PricewaterhouseCoopers, *India Pharma, Inc.: Gearing up for the next level of growth*, accessed 9 July 2019, <https://www.pwc.in/assets/pdfs/pharma/pharma-summit-report-31-10-12.pdf>.

110 Ibid.

111 Ibid.

112 Ibid.

113 Ibid.

114 Ibid.

115 Ibid.

116 "Deploying Drugs for New Purposes Holds Great Promise - Old Drugs in New Bottles," *The Economist*, last modified 28 February 2019, <https://www.economist.com/leaders/2019/02/28/deploying-drugs-for-new-purposes-holds-great-promise>.

117 Ibid.

118 Y Cha et al., "Drug Repurposing from the Perspective of Pharmaceutical Companies: Drug Repurposing in Pharmaceutical Companies," *British Journal of Pharmacology* 175, No. 2 (January 2018): 175, <https://www.ncbi.nlm.nih.gov/pubmed/28369768>.

119 Ibid.

120 Jim Chappelow, "Infrastructure Definition," *Investopedia*, accessed 13 July 2019, <https://www.investopedia.com/terms/i/infrastructure.asp>.



B.R. Ambedkar Memorial Teaching Hospital in Tripura, India

aspects of basic infrastructure, such as reliable electricity in 8% of its **Primary Health Centers**.¹²¹ It also has a lack of regular water and electrical supply in 25.5% of sub-centers (the first point of contact between the rural population and the health system), and approximately 6% of PHCs and sub-centers are without all-weather access roads for vehicles.¹²² This leaves some of rural India totally isolated from advanced forms of health care, and a quarter of the population covered by sub-centers without necessary basic supplies such as clean water. Due to the nature of treatment, many NTDs require access to clean water, such as that for dengue fever, and a lack of access to this resource indicates that patients will continue to use parasite-infested water to relieve symptoms. More importantly, a lack of access to clean water for over a quarter of all sub-centers in India implies that at least a quarter of rural Indians face barriers to access this resource, with human waste-infested water being one of the main carriers of NTDs.

Access to clean drinking water is an essential component of any solution to eradicate NTDs. With a rural population of around 700 million and 1.5 million villages, some in extremely remote areas, bringing clean drinking water to households is no simple task.¹²³ By 2011, 95% of India's rural population had basic forms of water supply infrastructure.¹²⁴ This achievement, however, came at a cost. Due to the nature of the construction, which involved state engineering departments building these systems, local villagers lacked a sense of ownership over the projects, and much of the infrastructure was never maintained.¹²⁵ Lack of awareness that water must be paid for also made the system financially unsustainable; this also came in the form of the growing population, drying up of water reservoirs, and demand of connecting household pipes instead of the basic village wells and hand pumps of the 1990s.¹²⁶

Between four generations of World Bank loans and proj-

121 Aditya Ramji et al., "Powering Primary Healthcare through Solar in India: Lessons from Chhattisgarh," *Oxfam India*, last modified August 2017, <https://www.ceew.in/publications/powering-primary-healthcare-through-solar-india>.

122 Vikas Bajpai, "The Challenges Confronting Public Hospitals in India, Their Origins, and Possible Solutions," Research article, *Advances in Public Health*, (2014), <https://www.hindawi.com/journals/aph/2014/898502/>.

123 "India: Bringing Clean Drinking Water to India's Villages," *World Bank*, last modified 24 May 2016, <https://projects-beta.worldbank.org/en/results/2016/05/24/bringing-clean-water-india-villages>.

124 Ibid.

125 Ibid.

126 Ibid.

ects, which worked on long-term sustainability of the project.¹²⁷ This included giving ownership to local governments for the management and execution of the project, connecting reservoirs with sanitation centers, and monitoring the investment through the achievement of key indicators in four low-income states have strongly impacted access to water for much of rural India.¹²⁸ In Uttarakhand, one of the states, over 8000 habitations (villages, among other communities) have built their own water supply systems through gravity-based pumps that do not require electricity, which allowed for the constant provision of water; this development has benefited approximately 1.5 million residents in the state.¹²⁹ Some of the current loans provided by the World Bank include a USD 165 million loan to **Maharashtra** to address the difficulty in providing water to areas in the barren, rocky terrain and collaborate with the Massachusetts Institute of Technology and the state's water sanitation department on technological implementations to provide water to these difficult-access areas.¹³⁰ In addition, the World Bank is also providing a USD 500 million loan to the four previously mentioned states to decentralize water systems and motivate villages to construct and maintain their own systems.¹³¹

Further investigation into water shortages revealed that although some villages are established near large bodies of water, due to the high concentration of salt, the resource is unsavory.¹³² This implies that villagers will often forego larger bodies of salt water for small reservoirs of still water, such as ponds, where the larvae of mosquitoes carrying NTDs such as Dengue fever and lymphatic filariasis thrive.¹³³ In response, the United States Agency for International Development held a competition for sustainable ways to desalinate clean sources

of salt water.¹³⁴ A team from the Massachusetts Institute of Technology developed a solar-run electrodialysis desalination system for off-the-grid provision of clean drinking water.¹³⁵ Although sustainable, long-term systems for clean water with centralized water treatment plants run by the government would prove desirable in the long-run, short-term solutions such as those above are also a way to mitigate the spread of NTDs and promote an active participation in sanitation efforts in the rural population.

Although most of the loans are from the International Development Association (IDA), the counterpart subsidiary to the IBRD in the World Bank, India's rural water crisis has moved past the point of basic provision. It is within the IBRD mandate and its financial products to provide loans to create physical infrastructure that reduce poverty.¹³⁶ Moving forward, the World Bank now seeks to establish infrastructure that will provide a more flexible times for access to water for villages, seek sustainable ways to utilize the diminishing supply of groundwater, and address pollution levels of arsenic, fluoride, and even uranium in the water supply, which have far exceeded recommended WHO levels.¹³⁷

Tying in with the issue of NTDs, these efforts must also now diversify from the original problem of providing water to villages and refocus on providing a high-quality, continuous supply of water to the sub-centers and Primary Health Centres of rural India.¹³⁸ Equally important is the development of sustainable water purification systems for water supplying irrigation in rural agricultural areas, which, without proper treatment of human wastewater, can still contain eggs of soil-transmitted helminth infection parasites.¹³⁹ These do not need to be localized missions aimed at inspiring citizens, but

127 Ibid.

128 Ibid.

129 Ibid.

130 Ibid.

131 Ibid.

132 "Cleaning Water without the Grid," *MIT News*, accessed 13 July 2019, <http://news.mit.edu/2016/cleaning-water-without-grid-0216>.

133 Ibid.

134 Ibid.

135 Ibid.

136 "Products and Services," *World Bank*, accessed 13 July 2019, <https://projects-beta.worldbank.org/en/projects-operations/products-and-services>.

137 "India: Bringing Clean Drinking Water to India's Villages."

138 Ibid.

139 María Claudia Campos et al., "Helminth Eggs as Parasitic Indicators of Fecal Contamination in Agricultural Irrigation Water, Biosolids, Soils and Pastures," *Biomedica: Revista Del Instituto Nacional De Salud* 38, No. 1 (15 March 2018): 42–53, <https://www.ncbi.nlm.nih.gov/pubmed/29668133>.

will require significant mobilization from both the private and public sector to provide adequate infrastructure to its public health system.

Case Study: Sewage Treatment and Irrigation

Another key issue in rural India was the prevalence of open defecation, with statistics assembled by the World Bank in 2015 showing that 56% of the rural population in India practice open defecation.¹⁴⁰ For NTDs spread through human feces, soil-transmitted helminth infections, such as ascariasis from previous sections, the practice of open defecation increases the odds of infection. To mitigate this issue, the Indian government issued the Swachh Bharat Mission, a national movement dedicated to eliminating the practice of open defecation.¹⁴¹ Since the start of the mission in 2014 through 2018, 92 million toilets in rural areas have been built to contain human waste and dispose of it in a sanitary manner.¹⁴² 604 out of 725 districts in India were declared open defecation free by 2018.¹⁴³

As of 30 June 2019, the IBRD's disbursements to the Indian government for the Swachh Bharat mission totaled USD 856.46 million, with USD 1,500 million as the total contribution. However, more work still needs to be done. A 2018 survey conducted in northern rural India showed that the percentage of open defecation had decreased from 70% to 44%.¹⁴⁴ In conjunction with government initiatives to build toilets, civilian efforts on reducing the practice of open defecation also contributed to the resolution of the problem.¹⁴⁵

Although there is still a long way to go before India is declared

open defecation free, the Swachh Bharat Mission is a key example in demonstrating the effectiveness of collaborations between IBRD loans and the Indian government's efforts towards tackling an immense public health problem.

India was declared as experiencing water scarcity in 2011, which the UN has defined to fall below 1700 cubic meters of water per capita.¹⁴⁶ In rural India, there is a complete lack of treatment of wastewater management.¹⁴⁷ The huge water shortage is attributed to 85.3% of the water supply in India being used for irrigation, but the system is unregulated and highly inefficient.¹⁴⁸ In India, 75% of domestic wastewater is discharged into local bodies of water, which could easily be minimally processed and repurposed for irrigation. However, India does not yet have any regulations surrounding the treatment of agricultural wastewater nor treatment plants for this purpose.¹⁴⁹ One possible answer is photovoltaic irrigation sys-



Image of slum shacks and a child in a rubbish-laden river, located in the Indian Himalayas

140 "People Practicing Open Defecation, Rural (% of Rural Population) | Data."

141 "Swachh Bharat Mission - Gramin, Ministry of Drinking Water and Sanitation," accessed 13 July 2019, <http://swachhbharatmission.gov.in/sbmcms/index.htm>.

142 Giribabu Dandabathula et al., "Impact Assessment of India's Swachh Bharat Mission – Clean India Campaign on Acute Diarrheal Disease Outbreaks: Yes, There Is a Positive Change," *Journal of Family Medicine and Primary Care* 8, no. 3 (March 2019): 1202–1208, <https://www.ncbi.nlm.nih.gov/pubmed/31041274>.

143 Ibid.

144 "Changes in Open Defecation in Rural North India: 2014 – 2018," *Research Institute for Compassionate Economics*, last modified 4 January 2019, <https://riceinstitute.org/research/changes-in-open-defecation-in-rural-north-india-2014-2018-2/>.

145 Ibid.

146 Sandip Sen, "If 80% Water Consumption in India Is for Agriculture, Why Is It Unregulated and Inefficient?," *Observer Research Center*, last updated 3 May 2018, <https://www.orfonline.org/expert-speak/if-80-water-consumption-in-india-is-for-agriculture-why-is-it-unregulated-and-inefficient/>; "International Decade for Action 'Water for Life' 2005-2015. Focus Areas: Water Scarcity," *United Nations*, accessed 13 July 2019, <https://www.un.org/waterforlifedecade/scarcity.shtml>.

147 Mohammad Rashid and Debapratim Pandit, "Determining the Provision of Wastewater Management Infrastructure in Rural India from the Local Communities' Perspectives," *Water Science and Technology* 79, No. 3 (1 February 2019): 489–500, <https://iwaponline.com/wst/article/79/3/489/65997/Determining-the-provision-of-wastewater-management>.

148 Sen, "If 80% Water Consumption in India Is for Agriculture, Why Is It Unregulated and Inefficient?."

149 Ibid.

tems, which are relatively cheap to obtain and have already been implemented in rural villages in sub-Saharan Africa.¹⁵⁰

Rural Electrification

Provision of electricity is essential to health care centers. A 2019 study on the effect of Jyotigram Yojana, a rural electrification program providing a continuous supply of electricity in Gujarat, India, conclusively showed that reliability and consistency in the provision of electricity significantly improved the operation capacity of Primary Health Centres in the area.¹⁵¹ Having a low-cost, backup diesel generator would be a simple solution to address the problem of unreliable electricity, but in actuality, it brings a high Levelized Cost of Electricity (LCOE), which takes into account **externalities** posed by using non-renewable energy.¹⁵² Photovoltaics (solar panels), in fact, have a lower LCOE than diesel generators, with an average of 0.09 USD/kWh compared to 0.25 USD/kWh.¹⁵³ In a 2017 study on the optimal solution for reliable energy access for healthcare facilities, the optimal energy solution recommended was a combination of a renewable energy source, with battery storage and a diesel generator to minimize the LCOE.¹⁵⁴

In a study conducted by Oxford India in 2017 in the state of Chhattisgarh, 61.1% of all Primary Health Centres reported that delivery services were severely impacted due to lack of access to electricity.¹⁵⁵ Shortages in medical supplies in larger hospitals across the country imply that there are shortages in rural sub-centers across India, and this problem seems to be exacerbated by the instability of electricity.¹⁵⁶ Furthermore, the

addition of backup power at hospitals significantly reduced the impact of electricity on many services, notably decreasing the proportion of impact of delivery from 88.2% in hospitals without backup to 51.5% in hospitals with backup, and reducing in-patient services from 45.5% to 20.6% of PHCs reporting affected services.¹⁵⁷ These numbers show that a steady supply of electricity is not only necessary for medical care and storage of materials, but also for delivery of supplies to and from the Centres. When combating NTDs, adequate provision of care such as medication and intensive care with life-threatening severe Dengue, a steady supply of electricity can often mean the difference between life and death.

The Sustainable Development Goals

The Sustainable Development Goals (SDGs) are a set of 17 goals adopted in the 2030 Agenda for Sustainable Development, which was adopted by all UN member states in 2015.¹⁵⁸ The goals focus on concentrating the efforts of all countries - developed and developing - to tackle pressing worldwide issues such as the reduction of poverty, economic development, and promoting equality while remaining cognizant of the status of wildlife on land and in the sea.¹⁵⁹

Some of these goals, such as SDG 1: Zero Poverty, encompass not only the wage of one person in one day, but also the lack of access to basic services such as education and, in this subtopic, water, electricity, and transportation.¹⁶⁰ While SDG 3: Good Health and Well-Being is the central focus of this entire topic, the key role that water and sanitation play in ensuring good health is extensively discussed in this subtop-

150 Saeed Mohammed Wazed et al., "A Review of Sustainable Solar Irrigation Systems for Sub-Saharan Africa," *Renewable and Sustainable Energy Reviews* 81, (1 January 2018): 1206–25, <https://ideas.repec.org/a/eee/rensus/v81y2018ip1p1206-1225.html>.

151 Yvonne Jie Chen, Namrata Chindarkar, and Yun Xiao, "Effect of Reliable Electricity on Health Facilities, Health Information, and Child and Maternal Health Services Utilization: Evidence from Rural Gujarat, India," *Journal of Health, Population, and Nutrition* 38, (19 February 2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6381650/>.

152 Andrea Franco et al., "A Review of Sustainable Energy Access and Technologies for Healthcare Facilities in the Global South," *Sustainable Energy Technologies and Assessments* 22, (1 August 2017): 92–105, <https://www.sciencedirect.com/science/article/pii/S2213138817301376>.

153 Ibid.

154 Ibid.

155 Aditya Ramji et al., "Powering Primary Healthcare through Solar in India: Lessons from Chhattisgarh."

156 Pushpa Narayan, "Government Hospitals Run out of Essential Medicines," *The Times of India*, last modified 25 April 2019, <https://timesofindia.indiatimes.com/city/madurai/government-hospitals-run-out-of-essential-medicines/articleshow/69049894.cms>.

157 Aditya Ramji et al., "Powering Primary Healthcare through Solar in India: Lessons from Chhattisgarh."

158 "Sustainable Development Goals," *United Nations*, accessed 29 October 2019, <https://sustainabledevelopment.un.org/?menu=1300>.

159 Ibid.

160 "Goal 1: End Poverty in All Its Forms Everywhere," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/poverty/>.

ic.¹⁶¹ A large portion of the problem of NTDs is related to SDG 6: Clean Water and Sanitation, without which citizens are extremely vulnerable to contracting an NTD, and thus the majority of this section was dedicated to discussion on mitigating the issue in India.¹⁶² In addition, when building infrastructure, SDG 7: Affordable and Clean Energy urges development projects to consider the environmental impacts of energy sources - which was analyzed during the discussion of backup energy for Primary Health Centres.¹⁶³ Finally, discussion of SDG 9: Industries, Innovation and Infrastructure, as well as SDG 11: Sustainable Cities and Communities resulted in potential avenues to further improve the current road and water infrastructure in rural India, as well as calling into question the sustainability of leaving urban India's slums to defend for themselves.¹⁶⁴

On a broader scope, although the topic of NTDs in India seems to isolate those living in poverty, it appears that the underlying problem, impacts almost all citizens of India. Solving the issue requires uncovering systemic problems in the public healthcare sector in India, along with a heavy level of engagement in terms of human capital, a venue explored through SDG 4: Quality Education, needed for producing qualified medical workers, and SDG 5: Gender Equality, required for addressing the worker shortage crisis in the public medical sector.¹⁶⁵ SDG 6: Sanitation, and SDG 7: Clean Energy, have been previously discussed on their relevance to the topic.¹⁶⁶ SDG 9: Infrastructure, as previously discussed, is essential to the process of providing potable water and adequate sanitation to prevent the spread of NTDs.

Importantly, India's economy suffers from wealth disparity, which ties in with SDG 10: Reduced Inequalities.¹⁶⁷ While some of the richest citizens live a standard of life unbothered by the overcrowded hospitals and lack of access to clean water, a vast number of citizens remain trapped in a cycle of poverty. This aspect of the problem also relates to SDG 11: Sustainable Cities and Communities. As previously discussed, many of the large cities in India host slums, unregistered communities whose residents do not own the land they live on and thus do not have access to basic city services such as clean water. Ignoring these communities will only perpetuate the growing inequalities in the country as well as exacerbating the problem of sustainability for India's poor in the long run.

Feasibility

Implementation

As previously identified, the main drivers of infection of NTDs in India occur through fecal ingestion and transmission through vectors.¹⁶⁸ Due to the nature of these transmissions, the primary causes of infection are improper sanitation of water, open defecation, or ingestion of unwashed produce grown from feces-fertilized soil.¹⁶⁹ The crippling effects of some NTDs, such as blindness in patients infected with trachoma, cause loss of productivity and billions of dollars from the Indian economy.¹⁷⁰

Treatment of NTDs involves generic drugs such as antibiot-

161 "Goal 3: Ensure Healthy Lives and Promote Well-Being for All at All Ages," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/health/>.

162 "Goal 6: Ensure Access to Water and Sanitation for All," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/water-and-sanitation/>.

163 "Goal 7: Ensure Access to Affordable, Reliable, Sustainable and Modern Energy," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/energy/>.

164 "Goal 9: Build Resilient Infrastructure, Promote Sustainable Industrialization and Foster Innovation," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/infrastructure-industrialization>; "Goal 11: Make Cities Inclusive, Safe, Resilient and Sustainable," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/cities/>.

165 "Goal 4: Quality Education," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/education>; "Goal 5: Achieve Gender Equality and Empower All Women and Girls," *United Nations*, accessed 23 July 2019, <https://www.un.org/sustainabledevelopment/gender-equality/>.

166 "Economic Growth," *United Nations*, accessed 30 October 2019, <https://www.un.org/sustainabledevelopment/economic-growth/>.

167 "Goal 10: Reduce Inequality within and among Countries," *United Nations*, accessed 30 October 2019, <https://www.un.org/sustainabledevelopment/inequality/>.

168 "WHO | Water Related Diseases."

169 Ibid.

170 "Trachoma."

ics and antiparasitics, which India specializes in producing.¹⁷¹ Aside from **mass drug administrations** (MDAs), there have been specific efforts to completely halt transmission, such as improvements in sanitation and water, as well as those to reduce the physical impairments left behind by the diseases.¹⁷² In addition, preventive measures like vaccines have not been maximized, leaving the opportunity for reinfection.¹⁷³ Insecticide-treated nets (ITN) have also been proven successful in preventing transmission of vector-borne NTDs such as leishmaniasis.¹⁷⁴

In a 2012 study, the cost for a basic insecticide-treated bed net, a critical, a cheap standard of prevention, was USD 4.¹⁷⁵ This was made on the assumption that the nets lasted for 1 to 4 years.¹⁷⁶ According to WHO standards, for nets to last a certain amount of years, clinical trials must be conducted and 80% of nets must pass the amount of years declared.¹⁷⁷ For long lasting insecticide-treated nets (LLIN), the nets must function a minimum of three years.¹⁷⁸ In 2010, the average price for LLINs was USD 4.75, with prices ranging from USD 3.30–7.9.¹⁷⁹ Adjusted for inflation, this means an average of USD 4.67 for a basic insecticide-treated bed net and USD 5.55 on average for a LLIN in 2019 prices.

Implicit in purchasing bed nets is the cost of distribution. Analysis in the same 2012 paper showed that large scale distributions resulted in fewer dollars spent on distribution per

net.¹⁸⁰ In larger programs that distributed at least 750 000 nets, the average cost of which, adjusted for inflation, was USD 2.45 per net in regions such as Burkina Faso and Uganda compared to an average of USD 3.68 for smaller campaigns of 65 000 nets or less.¹⁸¹ In a 2003 article analyzing the costs of the 1997 campaign in distributing ITNs to the Surat district of Gujarat state in India, the total cost for the campaign amounted to 3,056,293 Indian rupees (INR) in 1997.¹⁸² Adjusted for inflation and **currency exchange**, this amounts to USD 135,455 today. Appendix B provides the division of costs for ITNs, including **recurrent costs** such as labor, insecticide, as well as **capital costs** such as the nets and vehicles.¹⁸³

Over the long run, LLINs are more cost-efficient due to the long-lasting nature of the nets.¹⁸⁴ On average, LLINs cost USD 6.32 over a 10-year period compared to USD 8.11.¹⁸⁵ Additionally, from a protection-based perspective, on a 10-year period, 850,000 ITNs succeeded in providing protection for 1.7 million people each year at a cost of USD 1.36, in contrast to LLINs' effective 2 million people per year and a cost USD 1.01.¹⁸⁶

One of the primary reasons mass drug administrations are so cost-efficient is due to its strong **economies of scale**, which means that as the number of treatments rise, the cost per treatment decreases.¹⁸⁷ This is because some costs, such as delivery costs, are **fixed costs**, which, when divided over

171 WHO, *Crossing the Billion. Preventive chemotherapy for neglected tropical diseases Lymphatic filariasis, onchocerciasis, schistosomiasis, soil-transmitted helminthiasis and trachoma*.

172 Adrian Hopkins, "Treating Neglected Tropical Diseases," *Community Eye Health* 26, No. 82 (2013): 26–27, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3756644/>.

173 Jeffrey M. Bethony et al., "Vaccines to Combat the Neglected Tropical Diseases," *Immunological Reviews* 239, No. 1 (January 2011): 237–70, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3438653/>.

174 Anne L. Wilson et al., "Benefit of Insecticide-Treated Nets, Curtains and Screening on Vector Borne Diseases, Excluding Malaria: A Systematic Review and Meta-Analysis," *PLOS Neglected Tropical Diseases* 8, No. 10 (9 October 2014): e3228, <https://www.ncbi.nlm.nih.gov/pubmed/25299481>.

175 Anni-Maria Pulkki-Brännström et al., "Cost and Cost Effectiveness of Long-Lasting Insecticide-Treated Bed Nets - a Model-Based Analysis," *Cost Effectiveness and Resource Allocation : C/E* 10 (4 April 2012): 5, <https://www.ncbi.nlm.nih.gov/pubmed/22475679>.

176 Ibid.

177 Ibid.

178 Ibid.

179 Ibid.

180 Wilson et al., "Benefit of Insecticide-Treated Nets, Curtains and Screening on Vector Borne Diseases, Excluding Malaria: A Systematic Review and Meta-Analysis."

181 Ibid.

182 Mrigesh R Bhatia, Julia Fox-Rushby, and Anne Mills, "Cost-Effectiveness of Malaria Control Interventions When Malaria Mortality Is Low: Insecticide-Treated Nets versus in-House Residual Spraying in India," *Social Science & Medicine* 59, No. 3 (1 August 2004): 525–39, <https://www.ncbi.nlm.nih.gov/pubmed/15144762>.

183 Ibid.

184 Ibid.

185 Ibid.

186 Ibid.

187 Hugo C. Turner et al., "Economic Evaluations of Mass Drug Administration: The Importance of Economies of Scale and Scope,"

an increasing number of treatments, decrease proportionally.¹⁸⁸ It is also important to note that economies of scale can also apply to vaccines, which, as previously discussed, can be long-term solutions to immunity against certain NTDs.¹⁸⁹ Another key component of MDAs is its **economies of scope**, which occur when efforts of provision of medication across multiple different NTDs requiring similar or dissimilar medications are integrated into one program to optimize resources for transportation and production.¹⁹⁰ Economies of scope mean that in the long run, the **marginal cost** (the change in total costs of producing one more unit) of producing com-

plementary goods and services, goods and services used in conjunction with another good or service, decreases.¹⁹¹ In other words, that the production of one good or service reduces the cost of producing a related good or service.¹⁹² In the case of MDAs, the establishment of a network for distributing one type of drug for one treatment means that the cost for distributing an additional drug will be relatively cheaper than if the additional medication were to be distributed through its own independent network.

Generally, the cost of treatment per person in the study, including selected NTDs, was estimated at less than USD 0.50.¹⁹³

Clinical Infectious Diseases 66, No. 8 (3 April 2018): 1298–1303, <https://www.ncbi.nlm.nih.gov/pubmed/29126255>.

	Total financial cost (USD)	% of financial cost*	Total economic cost (USD)	% of economic cost*
Capital costs				
Vehicles	5,369	4.0%	5,718	3.7%
Communication & IT equipment	558	0.4%	601	0.4%
Accommodation equipment	446	0.3%	467	0.3%
MDA & IEC equipment	2,348	1.7%	2,469	1.6%
Subtotal	8,721	6.4%	9,255	5.9%
Recurrent costs				
Travel & transport	39,306	29.1%	39,465	25.3%
Vehicle fuel & maintenance	3,384	2.5%	3,384	2.2%
Accommodation & sustenance	13,513	10.0%	22,479	14.4%
MDA & IEC consumables & other charges	8,063	6.0%	17,449	11.2%
Drugs (tetracycline/azithromycin)	5,116	3.8%	5,116	3.3%
Communication	1,246	0.9%	1,246	0.8%
Personnel	55,919	41.3%	57,679	37.0%
Subtotal	126,546	93.6%	146,817	94.1%
Subtotal	135,267		156,072	
Overhead (25%)	33,871		33,817**	
Total	169,084		189,889	
Number of persons treated	123,760		123,760	
Cost per person treated	1.37		1.53	

*Proportions were calculated on the subtotal, i.e. excluding the overhead.

**Overhead as calculated for financial costs.

doi:10.1371/journal.pntd.0001362.t001

Cost of treatment in South Sudan (May 2010)

188 Ibid.

189 Ibid.

190 Ibid.

191 Alicia Tuovila, “Marginal Cost Of Production Definition,” *Investopedia*, accessed 10 September 2019, <https://www.investopedia.com/terms/m/marginalcostofproduction.asp>; Caroline Banton, “Complementary Goods,” *Investopedia*, accessed 10 September 2019, <https://www.investopedia.com/terms/c/complement.asp>; Jim Chappelow, “Economies of Scope Definition,” *Investopedia*, accessed 10 September 2019, <https://www.investopedia.com/terms/e/economiesofscope.asp>.

192 Ibid.

193 Christopher Fitzpatrick et al., “Benchmarking the Cost per Person of Mass Treatment for Selected Neglected Tropical Diseases: An Approach Based on Literature Review and Meta-Regression with Web-Based Software Application,” *PLOS Neglected Tropical Diseases* 10, No. 12 (5 December 2016): e0005037, <https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0005037>.

A study published in 2015 comparing unit costs of treatment across multiple studies discovered that a significant number of unit costs had a negative correlation with the number of people treated, confirming the economies of scale.¹⁹⁴ Another study in 2011 examining an MDA treatment of trachoma in South Sudan put accounting estimates at USD 169,084 in 2010 for 123,760 people, putting the cost per person at USD 1.37.¹⁹⁵ This means the treatment would cost USD 198,517 today, with a cost per capita of USD 1.61 (see table above).¹⁹⁶

While many other treatments, inevitably requiring more costly drugs, will be necessary, the study of costs within these MDA projects illustrate the robust cost reduction potential of programs that produce Economies of Scale or Scope, thereby aggregating production for cheaper bulk output.

NTDs specifically target the world's poorest, and with India's public health system overrun by corruption, long-term eradication of these diseases will be impossible if citizens cannot access treatment.¹⁹⁷ Before identifying the problems and areas for investment, however, it is important to make a distinction. Public health is different from public healthcare. While public health can involve multiple departments, such as the state engineering department draining swamps and spraying insecticide for vector control, public healthcare refers to the system of government institutions that provide medical treatment for citizens, the structure of which was laid out in the Country Diagnosis.¹⁹⁸

Economic Theory: Market Failure

When the free insurance market offers services into the health services system but diseases affecting the poor such as NTDs continue to run rampant despite clear net benefits of eradication, it implies that there is improper allocation of resources by

the private sector, which is a **market failure**.¹⁹⁹ The result of market failures implies that government intervention is necessary, meaning that the Indian government must intervene in the free insurance market to account for the **deadweight loss** neglected by the free market.²⁰⁰ **Deadweight loss** is a cost that society pays due to a loss in efficiency, which, in this case, is the inefficient allocation of resources, specifically public health coverage.

Economic theory states that a market failure is present when goods or services have **externalities**, or transactions where the benefits to society from the transaction are greater or less than the benefits to the person making the transaction. Relating to healthcare specifically, healthcare is commonly thought of a positive externality, meaning that society benefits from individuals getting healthcare. Because the individuals do not internalize the additional societal benefits of purchasing healthcare, they then purchase healthcare at a level that is less efficient than the **socially optimal level**. These externalities are typically thought to come in the form of increased wealth due to decreased disease exposures, and thus increased productivity as well as increases in knowledge and technology.²⁰¹ These externalities, which do not benefit private insurance companies but do benefit society as a whole, require government intervention to maximize the gains for society and to ensure that the true market is at equilibrium.

Absenteeism is an additional problem affecting the quality of India's public health services, which is due to the fact that medical workers are paid a fixed salary regardless of the amount of vacation that they take.²⁰² Despite regulations, workers in sub-centers and Primary Health Centres are often found absent due to travelling for personal reasons, and vacant posts in healthcare centers are never replenished.²⁰³

194 Ibid.

195 Jan H. Kolaczinski, Emily Robinson, and Timothy P. Finn, "The Cost of Antibiotic Mass Drug Administration for Trachoma Control in a Remote Area of South Sudan," *PLOS Neglected Tropical Diseases* 5, No. 10 (11 October 2011): e1362, <https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0001362>.

196 Ibid.

197 Jeffrey Hammer, Yamini Aiyar, and Salimah Samji, "Understanding Government Failure in Public Health Services," *Economic and Political Weekly* 42, No. 40 (2007): 4049–57, https://www.jstor.org/stable/40276648?seq=1#metadata_info_tab_contents.

198 Ibid.

199 Ibid.

200 Ibid.

201 "Introducing Health Care Economics | Boundless Economics," *Lumen Learning*, accessed 10 September 2019, <https://courses.lumenlearning.com/boundless-economics/chapter/introducing-health-care-economics/>.

202 Hammer, Aiyar, and Samji, "Understanding Government Failure in Public Health Services."

203 Ibid.

Solutions to this problem involve restructuring the salary system for healthcare workers in India, similar to the pay-by-service system previously mentioned. Other developments in human capital, such as education, lie under the mandate of the IDA and are never included in IBRD loans to India. This being said, not all potential developments in human capital require the construction of schools and other institutions. The creation of standard procedures and adherence to regular recruitment and training could mean that only a small amount of funds must be allocated to the development of human capital needed to eradicate NTDs, given that training occurred at pre-established government institutions with supervising personnel.

Infrastructure

Most recently, the World Bank has collaborated with India on the Madhya Pradesh Rural Connectivity project aimed at surface sealing of the gravel roads in the region, employing a women's self-help group with training, and tools for maintenance of the roads.²⁰⁴ The project also examined the possibility of extending networks to surrounding villages to facilitate social and economic activities in the region.²⁰⁵ The IBRD's commitment of this project amounted to USD 210 million out of a total project cost of USD 502 million.²⁰⁶ The repayment schedule is a semi-annual, with a 0.25% of the loan as a Front-End Fee and 0.25% per annum of the unwithdrawn loan balance as the commitment charge.²⁰⁷

A current project by the World Bank is a medium-term project by the government of Himachal Pradesh on providing water access and sanitation services to the Greater Shimla Area.²⁰⁸

204 "Projects : Madhya Pradesh Rural Connectivity Project | The World Bank," *World Bank*, accessed 18 July 2019, <http://projects.worldbank.org/P157054/?lang=en&tab=documents&subTab=projectDocuments>.

205 Ibid.

206 Ibid.

207 Ibid.

208 "Projects : Shimla Water Supply and Sewerage Service Delivery Reform Programmatic Development Policy Loan 1 | The World Bank," *World Bank*, accessed 19 July 2019, <http://projects.worldbank.org/P167246?lang=en>.

209 Ibid.

210 Ibid.

211 Ibid.

212 "Projects : Innovation in Solar Power and Hybrid Technologies | The World Bank," *World Bank*, accessed 19 July 2019, <http://projects.worldbank.org/P160379?lang=en>.

213 Ibid.

214 World Bank "The World Bank Annual Report 2018 (English)," accessed 19 July 2019, <http://documents.worldbank.org/curated/en/630671538158537244/The-World-Bank-Annual-Report-2018>.

215 Ibid.

216 Ibid.

The total cost and commitment of the project is USD 40 million.²⁰⁹ The loan works to provide financial stability through an autonomous Water Supply and Sewage (WSS) Company and includes political reforms such as granting greater autonomy to the WSS Company.²¹⁰ Importantly, the project focuses on shifting from traditional efforts in the construction of infrastructure to cultivating a more competitive market for the provision of water services, and including citizen feedback in the process as a means of increasing accountability.²¹¹

Earlier, it was recommended in a study on electricity in hospitals that these institutions utilize a hybrid of solar power, batteries and diesel generators. Recently, the World Bank has been collaborating with India on the operational and economic feasibility for renewable energy such as photovoltaics, and battery energy storage solutions (BESS).²¹² The commitment is a USD 150 million loan to support investments in renewable energy and BESS, as well as providing technical support, monitoring, among other forms of support.²¹³

Returns on Investment

The issuing of IBRD **bonds**, such as the January 2018 bond for raising awareness on the inclusion of women and girls and its powerful effect on promoting economic growth, offer incentives for returns on investment for many of the issues that surround and propagate NTDs.²¹⁴ Additionally, the IBRD is also involved in the creation of **green bond** markets, which promote investment in renewable energy and other climate-related projects.²¹⁵ Private purchasing of these bonds results in the money being invested in R&D as well as implementation of environmentally-supportive projects.²¹⁶

Although a hefty investment, universal healthcare has been shown to provide governments with valuable returns on investment. In a report by *The Economist*, several studies have shown links to wider health coverage and the rate of growth in countries.²¹⁷ Notably, one of the studies discovered that as much as 30% of the growth in GDP experienced by England from 1780 and 1979 could be attributed to better health.²¹⁸ In another 2014 report written by the former President of the World Bank, Jim Yong Kim, he stated that a recent *Lancet* Commission examining broader criteria for growth found that nearly a quarter of growth from 2000 to 2011 could be attributed to health investments in developing countries.²¹⁹ It is clear that of all the returns on investment, progress towards universal health care yields the most impactful and economically significant returns.

The lack of universal healthcare in India further perpetuates the problem of NTDs. According to a report by the WHO in 2013, in just one Indian state, Gujarat, 88% of households falling below the poverty line were in this situation as a result of health care costs.²²⁰ Given the fact that NTDs affect those living in poverty without access to proper sanitation, accessibility to low-cost or free healthcare is essential to mitigating the problem. However, it is crucial that the money invested is properly allocated in order to maximize results. In this case, examining a country at a similar developmental level as India with an advanced healthcare system could provide insight into how to efficiently allocate government resources. One country with a similar economic profile as India is Thailand, but the quality of public healthcare in the state is almost at the standard found in OECD countries.²²¹

Case Study: Thailand

Thailand's foundation for universal health coverage began with the construction of hospitals and primary health care centers throughout the country, culminating in full coverage of district hospitals in 1990.²²² Similar to the Indian health care system, hospital infrastructure is divided into a hierarchy based on the size of the population served.²²³ One dissimilarity between the Thai and Indian healthcare system, however, is the proportion of private versus public health services. While India's private sector accounts for almost 75% of health services, only 14% was contributed by private health institutions for outpatient treatment in Thailand.²²⁴ This difference in organization could imply challenges when implementing policy to reduce costs.

The history of Thailand's health care system largely resembles that of India's, with absenteeism and shortages in medical workers in rural areas.²²⁵ In 1972, the government issued a 3-year mandatory rural health service period for all medical and nursing graduate students from private and public medical schools; it offered financial and non-financial incentives to motivate future health workers to remain in rural areas post-graduation.²²⁶ In 1994, the Ministry of Public Health introduced a specialized health program for high school graduates in rural areas, where students could enroll in university despite having less competitive grades, and eventually go on to pass standard national exams to become fully-qualified medical professionals.²²⁷ This program was granted based on the guarantee that these students would return to work in their communities after graduation.²²⁸ To streamline the process, the Ministry of Public Health also set up training centers to accommodate for the 20% annual increase in the number of medical students since 2000.²²⁹ Given that India's public

217 "Both in Rich and Poor Countries, Universal Health Care Brings Huge Benefits."

218 Ibid.

219 Ibid.

220 "Arguing for universal health coverage."

221 "Universal Health Care, Worldwide, Is within Reach."

222 Viroj Tangcharoensathien et al., "Health Systems Development in Thailand: A Solid Platform for Successful Implementation of Universal Health Coverage," *The Lancet* 391, No. 10126 (24 March 2018): 1205–23, <https://www.ncbi.nlm.nih.gov/pubmed/29397200>.

223 Ibid.

224 Ibid.

225 Ibid.

226 Ibid.

227 Ibid.

228 Ibid.

229 Ibid.

health system suffers from a staff shortage, this policy offers a potential solution.

Introduction of the Universal Health Coverage policy has shown dramatic improvements in measures of development, according to the WHO.²³⁰ In the decade after its implementation, life expectancy at birth rose from 70.3 to 71.8 years up to 71.8 to 74.2 years.²³¹ Importantly, the impact of reduced out-of-pocket spending for households for healthcare services led to fewer households suffering severe losses in savings - in fact, household savings increased in previously uninsured households.²³² Increased expenditure in medicines and medical supplies also led to a stimulation of the chemical, trade, electricity, and transport sectors in Thailand, thus demonstrating a direct causation between investment in health and economic returns.²³³

The government of Thailand implemented the Low-income Scheme in 1975, a program that provided free medical care on the basis of means-testing.²³⁴ The policy was financed purely



Image of various pharmaceutical drugs

through a portion of the tax revenue, which was allocated to the Ministry of Public Health, and covered outpatient, inpatient, dental services and medicines, with the exception of a few high-cost healthcare services.²³⁵ This policy is similar to a recent movement made by the Indian government covering approximately USD 700 per household for medical expenses through private insurance companies, called Ayushman Bharat.²³⁶ Further investigation into the policy could yield potential expansion for Ayushman Bharat to provide equitable, and not simply equal, access to health insurance.

In 2001, the Thai government rolled out a Universal Health Care scheme that united several bodies created by policies throughout the year responsible for administering health insurance to certain demographics in the population.²³⁷ Despite a narrow **fiscal space**, with tax revenue at just 13% of GDP, and a low **gross national income per capita** of USD 1,990 per capita, the government used fully non-contributory funds from tax revenue in order to carry out the project.²³⁸ Any shortfall in the allocated budget and the projected budget was met through more tax revenue contributions by the government.²³⁹ Calculation of the budget was done through consideration of a multitude of factors, from **capitation** revenue, the taxed part of income allocated to healthcare, to unit costs for essential medicines to utilization rates for different types of services.²⁴⁰

India's current macroeconomic situation is not dissimilar to that of Thailand's. In 2017, India's tax revenue was 11.2% of GDP, with GNI per capita in 2018 at USD 2,020 per capita.²⁴¹ A recent increase in the percent of income tax, which was raised from 15% to 25% for those with taxable income be-

230 Kanitsorn Sumriddetchkajorn et al., "Universal Health Coverage and Primary Care, Thailand," *Bulletin of the World Health Organization* 97,

No. 6 (1 June 2019): 415–22, <https://www.who.int/bulletin/volumes/97/6/18-223693/en/>.

231 Ibid.

232 Ibid.

233 Ibid.

234 Tangcharoensathien et al., "Health Systems Development in Thailand: A Solid Platform for Successful Implementation of Universal Health Coverage."

235 Ibid.

236 "Ayushman Bharat - National Health Protection Mission | National Portal of India," *National Portal of India*, accessed 5 August 2019, <https://www.india.gov.in/spotlight/ayushman-bharat-national-health-protection-mission>.

237 Ibid.

238 Ibid.

239 Ibid.

240 Ibid.

241 "Tax Revenue (% of GDP) | Data," *World Bank*, accessed 5 August 2019, <https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS>; "GNI per Capita, Atlas Method (Current US\$) | Data," *World Bank*, accessed 5 August 2019, <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>.

tween USD 281,769.50–704,423.75 and from 15% to 37% for those with taxable income above USD 704,423.75 as recently as July 2019, implies that tax revenue will likely increase in the coming year.²⁴²

Also crucial to the execution of such a policy is the maintenance of accountability and efficiency. Thailand employed multiple approaches, including autonomy for local governments to tailor healthcare to region-specific preferences, investment in primary health care (essential, basic healthcare), a cost-cutting committee regularly working with companies to provide affordable medicine and equipment, separation between purchasers of medical goods and providers of medical goods, establishing call centers and public hearings for the public, and importantly, third-party audits for monitoring on the necessary places for investment.²⁴³ Crucially, any and all policies the government adopted also applied to the private medical sector, which, for Indians, comprises of the majority of their health expenditures.

Bloc Analysis

Point of Division

Countries will differ on their priorities in the loan appraisal according to their financial and development interests. Countries looking to regions like India as potential spaces for investments will prioritize development of areas that can provide returns to their own firms. This means they will tend to ignore rural areas but emphasize the direction of funds toward development of urban areas that can integrate into the global economy, specifically favoring decentralization of India's pharmaceuticals. This is a key point of division given the current trade war and competing interests between allies of the US and allies of China. Countries sympathetic to the effects of NTDs, such as those with NTDs themselves, will show

more willingness to invest in more remote and historically rural areas where NTDs may be most relevant.

US, Japan, Canada, & Other Strong Political Allies

India currently occupies an important role on the world stage for generic drugs.²⁴⁴ Its cheap production costs mean that countries with higher production costs will outsource to India for importing generics. However, given the recent FDA noncompliance cases, the US is looking to expand the generic drug industry into other countries, namely China, by licensing Chinese drugs.²⁴⁵ However, given the current trade war, it is unlikely that the US's diversification plans include China at the moment. More entry into the market implies greater supply, driving prices down. Countries that are large importers of Indian generics and have strong political ties to the US would be against further investment in research and development and expansion of the Indian pharmaceuticals production industry and would look to licensing more competition to decrease the semi-monopolized generic market that India currently holds. From a development perspective, these states would not be opposed to supporting investment in the development of infrastructure and medical facilities in India, in an effort to curry favor with a low-cost production country. These states would also collaborate and support the US in the event of any confrontation with China and its allies.

BRICS, Commonwealth, & Other OECD Countries

India's involvement in several organizations of states, such as BRICS and the Commonwealth, have brought forth past collaborations on combating NTDs.²⁴⁶ BRICS countries have previously held summits to discuss the problem of NTDs, which affect India, Brazil, China and South Africa.²⁴⁷ As an ally, Russia previously brought infectious diseases to the at-

242 Ameya Karve, "\$42 Billion Wiped Off Indian Stocks as Doubts on Tax Linger," *Bloomberg*, last modified 9 July 2019, <https://www.bloomberg.com/news/articles/2019-07-09/-30-billion-wiped-off-india-stocks-as-tax-clarity-eludes-market>.

243 Ibid.

244 "Pharma Industry in India: Pharma Sector Overview, Market Size, Analysis," *India Brand Equity Foundation*, accessed 19 July 2019, <https://www.ibef.org/industry/pharmaceutical-india.aspx>.

245 "Indian Drugmakers Need a New Prescription," *The Economist*, last modified 22 March 2018, <https://www.economist.com/business/2018/03/22/indian-drugmakers-need-a-new-prescription>.

246 Amber Cashwell et al., "BRICS in the Response to Neglected Tropical Diseases," *Bulletin of the World Health Organization* 92, no. 6 (1 June 2014): 461–62, <https://www.ncbi.nlm.nih.gov/pubmed/24940024>.

247 Ibid.

tention of the G8 at the Saint Petersburg Summit of 2006, and contributed technological assistance to the development of medication.²⁴⁸ In 2012, the Commonwealth countries signed the London Declaration on NTDs, a pledge between all Commonwealth states to collaborate on R&D, funding, and donations from large pharmaceuticals companies to eradicate NTDs.²⁴⁹ Already, the vast majority of academic papers published on NTDs are written by authors in countries in the OECD.²⁵⁰ In a 2018 report titled “Active with India,” the OECD declared that it is prepared to strengthen relations with India to help with reforms and improve social, physical, and green infrastructure.²⁵¹

However, recent tensions between the United States and China in international trade could mean divisions between this bloc, especially concerning PPPs with major pharmaceutical companies or importing of other supplies required for infrastructure. As it currently stands, the effects of the US trade war on India has not affected India’s relations with the countries involved, although there is a slightly higher rise in Indian exports to China compared to that of the US.²⁵² Strong allies of the US, such as Canada, could imply disagreement from states also scorned by US protectionism, such as Iran, which would likely side with China.

Countries affected by NTDs

Brazil and the Amazon region, Sub-Saharan Africa, and East and South Asia are the world’s hotspots for the most concentrated cases of NTDs.²⁵³ These countries, although not immediate neighbors of India, are interested in investment in India for R&D on vaccines and other treatments for NTDs because these solutions are a global public good, meaning that

their development can also be used to solve the problems of NTDs in their countries.²⁵⁴ However, because R&D is highly costly and risky, states with smaller economies generally shy away from developing these medications themselves because of a lack of resources.²⁵⁵ Therefore, promotion of R&D in India means that these countries can also reap the benefits of developing vaccines and treatment. Countries in this bloc will promote a greater focus in the loan proposal on the specifics of clinical R&D in India as well as commend a heftier investment in this section in proportion to other aspects of the problem. Another convincing argument to this way of allocating the resources is that a cost-effective approach to eradicating NTDs, especially in underdeveloped areas, could provide a framework for these poorer countries to also enact in their own problem areas. Successful eradication of diseases from these areas, with as low an investment as possible, means that in countries also affected by NTDs in this bloc, the majority of which are smaller, poorer countries, with little to no infrastructure, eradication is also possible.

Committee Mission

The International Bank for Reconstruction and Development (IBRD) is a subsidiary of the World Bank, and is the largest development bank in the world, offering financial products (loans, bonds, and others) and policy advice to middle-income or credit-worthy low-income countries in support of the mission of the World Bank.²⁵⁶ The World Bank has currently set two goals for 2030: the first is to end extreme poverty, and the second is to foster income growth for the bottom 40% of citizens of every country.²⁵⁷ The IBRD receives its funding from the global financial market, and is rated triple A, which allows

248 Ibid.

249 Peter J. Hotez et al., “The First ‘London Declaration’: The Commonwealth and Its Neglected Tropical Diseases,” *PLOS Neglected Tropical Diseases* 11, no. 4 (27 April 2017): e0005321, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5407556/>.

250 Kaye Phillips et al., “Canada’s Neglected Tropical Disease Research Network: Who’s in the Core—Who’s on the Periphery?,” *PLOS Neglected Tropical Diseases* 7, no. 12 (5 December 2013): e2568, <https://www.ncbi.nlm.nih.gov/pubmed/24340113>.

251 “India - OECD,” *Organization for Economic Co-Operation and Development*, accessed 19 July 2019, <https://www.oecd.org/india/>.

252 Kirtika Suneja, “Trade War Impact: Indian Exports Rise More to China than to US, Says SBI,” *The Economic Times*, last modified 29 July 2019, <https://economictimes.indiatimes.com/news/economy/foreign-trade/trade-war-impact-indian-exports-rise-more-to-china-than-to-us-says-sbi/articleshow/70438112.cms?from=mdr>.

253 Peter J. Hotez, “Ten Global ‘Hotspots’ for the Neglected Tropical Diseases,” *PLoS Neglected Tropical Diseases* 8, no. 5 (29 May 2014), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4038631/>.

254 Ibid.

255 Ibid.

256 “International Bank for Reconstruction and Development,” *World Bank*, accessed 6 August 2019, <https://www.worldbank.org/en/who-we-are/ibrd>.

257 “What We Do,” *World Bank*, accessed 6 August 2019, <https://www.worldbank.org/en/about/what-we-do>.

it to essentially guarantee repayment from its funders and also allows it to act as a conduit for private sector involvement in many of the loans it gives to its clients.²⁵⁸

Currently, the World Bank is focused on The Human Capital Project, a program dedicated towards raising human capital such that countries can have more productive workers enter the workforce, thereby driving forth growth. NTDs remove millions of productive workers from India's economy yearly, and thus it is in the best interest of the Bank to ensure their eradication. Moreover, healthcare worker shortages in the country have caused neglect of many diseases, not only NTDs, hence engagement of youth in working in the health industry is also essential.

Furthermore, the International Bank for Reconstruction and Development is only capable of providing loans that guarantee better development, be it construction of infrastructure or government interventions in the market. It does not give out loans as temporary solutions - more appropriately, it gives out loans as a means of investment to ensure that the loan will be repaid. This implies that long-term solutions are required for approval of the proposal.

Specific to this topic in the context of the committee mission is the focus on long-term, sustainable development specifically in the lower echelons of India's society. Given the fact that NTDs primarily attack citizens of weak socio-economic standing in India, development of healthcare services and overall improvement of standard of living is essential in order to ensure disease eradication. This includes development of sewage and waste treatment, access to potable water, and general public education on the importance of sanitation, at the very basic level. To ensure that such investments are sustainable, loan proposals should focus primarily on actively engaging citizens in maintaining such developments, such as upkeep of public infrastructure or a gradual progression towards universal healthcare.

258 "International Bank for Reconstruction and Development."

Glossary

Accounting Costs: Raw financial costs.

Aedes Aegypti: A species of mosquito responsible for transmitting NTDs such as Dengue.

Aggregate Production: The sum of all modes and factors of production in an economy.

Antigen: Antigens are any substance that incites a reaction in the human immune system. In the context of NTDs, these can be parasites or markers present on viruses and bacteria.

Barrier to Entry: Obstacles or high startup costs preventing competitors from entering the market.

Belt and Road Initiative: An initiative started by Chinese President Xi Jin Ping on infrastructure development, promotion of investment and trade, as well as cultural understanding. The project spans across several countries in Eurasia.¹

Bonds: A long-term, low-risk debt, usually sold by governments.

Burden of Disease: A method of measuring the cost of disease on an individual and on society, taking in health, social, political, environmental and economic factors.²

Capital Costs: The cost of buying physical goods, such as medical supplies.

Capitation: Predetermined, periodic payments to physicians or other healthcare professionals. Usually paid through a patient enrolled in a capitation insurance program.³

Cartels: An organization stemming from a formal agreement established between members to control market prices for a certain good, usually by restricting supply to raise market price. OPEC is an example of a cartel.

Comparative Advantage: A term that refers to an economy's ability to produce a certain good or service at a lower opportunity cost than its competitors.

Complementary Goods and Services: A good or service used in conjunction with another good or service.

Consumption: The sum of all spending on goods or services by a particular entity.

Cost Recovery: Recovery of the costs accumulated through initial construction through profit generation.

Deadweight Loss: A loss of efficiency due to imperfect allocations of resources.

Demand: A term describing a consumer's desire to purchase goods and services and willingness to pay a price for a specific good or service.

Dengue: A mosquito-borne viral infection with flu-like systems, which, left unchecked, can become fatal. It is spread by the *Aedes aegypti* in tropical and sub-tropical climates.

¹ "How Will the Belt and Road Initiative Advance China's Interests?," *ChinaPower Project*, last modified 8 May 2017, <https://chinapower.csis.org/china-belt-and-road-initiative/>.

² Max Roser and Hannah Ritchie, "Burden of Disease," *Our World in Data*, last modified 25 January 2016, <https://ourworldindata.org/burden-of-disease>.

³ Julia Kagan, "Capitation Payments," *Investopedia*, accessed 13 September 2019, <https://www.investopedia.com/terms/c/capitation-payments.asp>.

Dutch Disease: An economic term for negative consequences a country faces when there is a spike in the value of the currency. In the context of Iraq, this means exploitation of the large reserves of fossil fuels.

Economies of Scale: As producers produce more goods, the average cost per good decreases.

Economies of Scope: Production of one good lowers the cost of producing a related good.

Elasticity: A measure of a product's change in supply or demand determined by sensitivity to price changes.

Embezzled: To appropriate (something, such as property entrusted to one's care) fraudulently to one's own use.

Endemic: Regularly found among people of a population.

Environmental Social Frameworks: A new policy enacted by the World Bank on all World Bank investment financing. It provides standards for transparency, accountability, public participation, and non-discrimination.⁴

Excess Demand: When more consumers would like to buy a product at its current price than is currently available.

Exchange Rates: The value of one country's currency to another's.

Externalities: An economic term referring to a cost or benefit incurred or received by a third party from a transaction it did not consent to.

Fire Spills: A sudden eruption of fire when heat is concentrated on an area with water and spilled oil.

Fiscal Space: The budgetary room that allows a government to provide resources for the public without damaging fiscal sustainability. Its existence is defined by the International Monetary Fund as whether or not a government can increase expenditure or lower taxes without endangering market access or putting debt sustainability at risk.⁵

Fixed Costs: A cost that does not change with an increase or decrease in the amount of goods and services sold.

Foreign Direct Investments: An investment made by a firm or individual in one country into business interests located in another country.

Gas Flaring: The controlled burning of natural gas and a common practice in oil/gas exploration, production and processing operations.

Green Bond: A bond specifically used for climate and environmental projects. The IBRD issues green bonds.

Gross Domestic Product: The total monetary (market) value of all finished goods and services produced within a country's borders in a specific period of time.

Helminthiasis: An infestation of helminths (parasites) in the body. Certain helminths that enter the human body through soil are called soil-transmitted helminths.

Human Capital: The economic value of a worker's experience, education, health, and skills.

Inelastic Good: Goods that are relatively insensitive to price changes in the market. Usually this applies for essentials such as

⁴ "Environmental and Social Framework (ESF)," *World Bank*, accessed 14 September 2019, <https://projects-beta.worldbank.org/en/projects-operations/environmental-and-social-framework>.

⁵ "WHO | What Is 'Fiscal Space' and Why Does It Matter?," *WHO*, accessed 14 September 2019, http://www.who.int/health_financing/topics/fiscal-space/why-it-matter/en/.

food or common medication.

Infant Industry: New industries in developing countries. Often these industries will require government protection against competitive pressures until they mature.

Lymphatic Filariasis: A parasitic disease caused by microscopic worms that infect the lymphatic vessels, resulting in swollen limbs. It is spread by mosquitoes, one of which is the *Aedes aegypti*.⁶

Maharashtra: The third largest state in India, containing Mumbai within its borders.

Marginal Cost: The cost of producing one more unit of a particular good.

Market Failure: An inefficient distribution of goods and services in a market.

Mass Drug Administration: The administration of mass treatment to a certain population whether or not symptoms of disease are present.

Multinational Corporations: A company that has facilities and other assets in at least one country other than its home country.

Nationalization: When a government takes control of a company or industry, which generally occurs without compensation for the loss of the net worth of seized assets and potential income.

OECD: A group of 34 member states that discuss and develop economic and social policy. All members are democracies that support free markets.⁷

Oil Spill: Leakage of petroleum onto the surface of a large body of water.

OPEC: A cartel of the world's 14 major exporters of oil that manages the supply of oil in order to set the world price of oil.

Opportunity Cost: The benefits that an individual or business misses when choosing one alternative over another. Can be in terms of money or other forms.

Output Quotas: A government-imposed trade restriction that limits the number or monetary value of goods that a country can produce and sell during a particular period.

Overcrowding: When a sector experiences overcrowding, this means that there are too many businesses in the market and that, through natural regulatory balances such as crowding out, the market will return to equilibrium.

Overdraft: When more resources are being consumed than replenished.

Poverty Trap: A situation that makes it extremely difficult for those born in poverty to rise out of it. A frequent condition of capital-scarce areas.

Primary Health Centers: Centers that help upkeep the day-to-day maintenance of health. Often, it is the first point of contact with the healthcare system.⁸

6 CDC-Centers for Disease Control and Prevention, "CDC - Lymphatic Filariasis," accessed 30 October 2019, <https://www.cdc.gov/parasites/lymphaticfilariasis/index.html>.

7 Will Kenton, "Organisation for Economic Co-Operation and Development (OECD)," *Investopedia*, accessed 14 September 2019, <https://www.investopedia.com/terms/o/oecd.asp>.

8 Harshal Tukaram Pandve and Tukaram K Pandve, "Primary Healthcare System in India: Evolution and Challenges," *International Journal of Health System & Disaster Management* 1, No. 3 (2013): 125-128, <http://www.ijhdsdm.org/article.asp?issn=2347-9019;year=2013;volume=1;issue=3;spage=125;epage=128;aulast=Pandve>.

Private Benefit: A benefit that is only advantageous to the individual or company but may be at the detriment to society.

Public Good: A product that an individual can consume without reducing its availability to another individual and from which no one is deprived. Since public goods provide no revenue, they are typically underprovided by the market. Common examples include environmental protection, public education, and healthcare.

Recurrent Cost: In the healthcare sector, recurrent costs are the costs of maintaining and operating a program once the initial investment has been completed.

Regional Economic Integration: An agreement between countries in a geographic region to reduce and even remove barriers to trade such as tariffs to promote free trade.

Resource Curse: A paradoxical situation in which countries with an abundance of non-renewable natural resources experience stagnant economic growth or even economic contraction.

Return on Investment: A performance measurement that tries to directly estimate the amount of return on a particular investment relative to its cost.

Sanctions: Penalties imposed by countries against an individual, company, or other countries. They are laws passed to restrict or abolish trade.

Socially Optimal Level: The socially optimal level factors in externalities so that the market runs at true efficiency.

Sovereign Wealth Funds: A state-owned investment fund or entity which comprises of pools of money derived from a country's reserves.

Supply: Describes the total amount of a specific good or service that is supplied and sold by producers on the market.

Trachoma: A bacterial infection resulting in blindness of the eyes.⁹

Vector-Borne Diseases: Diseases caused by viruses, parasites, or bacteria transmitted from one host to the next through vectors; living organisms that transmit these diseases without being sick themselves. One example of a vector is the mosquito.¹⁰

Volatility: A measure of the stability of a given market. A high volatility indicates that prices tend to swing back and forth between high and low, indicating low security on investment.

⁹ "Trachoma."

¹⁰ "Vector-Borne Diseases."

Appendix A: Sample Loan Proposal

Executive Summary

Eight years after the events of the Arab Spring and death of Muammar Gaddafi, Libya is currently in the process of post-conflict reconstruction. For several years, Libya has partnered with the World Bank in different development projects in order to increase the quality of life of citizens across the country. Some of these projects aim to revitalize Libya's competitive market and economy through partnerships with foreign businesses. These projects have highlighted different economic measures in which create an overall stable economy. Following negotiations with the state of Libya and appraisal by the International Bank for Reconstruction and Development, a comprehensive loan proposal has been finalized. Continuing the progress done by the bank as well as international efforts such as the United Nations Sustainable Development Goal, this loan proposal provides Libya the necessary financial assistance to rebuild its economy beyond the period of this loan. Through this assistance, the overall goal of this loan is to increase stability and promote sustainable prosperity nationwide. Paired with a generous repayment period and targeted investments with high probability of returns, the IBRD is confident in the expected repayment of the loan. The loan specifically targets short and long-term economic growth—initiatives in this loan are aimed to (1) recover destruction done by acts of destruction, (2) create a stable labor market, (3) increase the well-being of citizens, (4) create an overall stable Libya, (5) ensuring economic prosperity and opportunities.

I. Total Amount of Loan: **USD 1,047,000,000.00**

A. Source: USD 0.00

B. Borrowers: USD 0.00

C. International Bank for Reconstruction and Development: USD 1,047,000,000.00

D. Others: USD 0.00

II. Proposed Project & Details

A. Disbursement Period 1: Infrastructure Rebuilding and Resilience Building **\$147,700,000 USD**

1. Sub-Initiative 1: Road Maintenance Investments **\$106,000,000 USD**

a. **Strategic Focus and Implementation:** As roadways are a significant infrastructure in society, investments such as these are necessary to recover damaged roads as a result of the long period of violence. These investments are also needed to ensure that the roads are maintained. Disbursed throughout the whole country the Ministry of Finance will allocate funds to areas which are needed the most. Essential to the reconstruction of infrastructure such as roads and sewage piping is the integration of private construction contractors to take on such projects. As such, a portion of this loan shall be dedicated to providing government subsidy of up to 30% of total construction costs, as well as oversight for workers in areas of unionization, vacation, maternal and sick leave protection, and employment insurance. This also implies that 1% of the budget will be allocated post-construction for the employment of local women for the maintenance of such infrastructure.

b. **Return on Investment Projections:** The development and creation of roads will be used on a daily basis and will be an integral part in restoring Libya's economy on different faces. While on the one

hand the reconstruction of roads will aid in allowing goods and services to be transported throughout different parts of the country, on the other hand, the development of roads will develop connectivity of communities across the country. These investments as well will establish maintenance offices on all project sites which will streamline into one larger office. These smaller offices will ensure that problems or complaints made in different towns and regions will be addressed in an efficient manner. The goal of this approach is to establish a competitive market to drive down costs for reconstruction and enabling a higher efficiency in terms of cost allocation.

- c. **Conditionality: Exceptions, Notions, etc.:** These investments will be provided to Libya's Ministry of Finance (MOF) which upon the discretion of the Bank will distribute the money to communities on a need basis. The level of need of investments for communities will be decided upon the Bank through periodic audits of 3 months. Annual maintenance and administrative reports will be done annually in order to ensure that maintenance and administrative performances are held to standard. Investments flowing from the bank to the MOF will halt if these performances do not meet the standard. If the Bank sees that additional finances are needed for certain maintenance projects, the Bank will be negotiable for an additional project which specifically targets additional financing for road maintenance.

2. Sub-Initiative 2: Housing Infrastructure and Services **USD 41,700,000**

- a. **Strategic Focus and Implementation:** Specifically focusing housing services available and the pitfalls within the system in Libya, money under this disbursement period will be allocated to make housing services to be accessible to different communities. This component as a whole will be a contributing piece to the equitable development of rural and urban development. Following the United Nations 11th Sustainable Development Goal, "Sustainable Cities and Communities," this pillar will promote the shift of concentrated urban cities and less populated rural areas to aid in creating sustainable cities.
- b. **Return on Investment Projections:** These sources given will primarily re construct any destroyed housing facilities and services due to the time of conflict. This project will first ensure that housing services for community members in need are accessible throughout the country. Emergency housing services will also be used as an aid to allow community individuals to be able to elevate themselves socially and economically.
- c. **Conditionality: Exceptions, Notions, etc.:** Reforms or changes made to housing services and facilities are under the discretion of the bank. The Bank as well as has the ability to suggest any changes in order. Rezoning and structuring of populated cities must be done in an equitable manner. Rezoning or structuring of these towns will be pre-evaluated and approved by the bank. Monthly performance evaluations will be conducted by the Bank in order to ensure projects in communities are properly implemented. If these performances are not up to par to the Bank's standards, then investments and assistance of this Bank will cease.

B. Disbursement Period 2: Improving Health Service and Administration **USD 151,434,200**

1. Sub-Initiative 1: Establishing Medical Facilities and Services in needed cities **USD 104,219,200**

- a. **Strategic Focus and Implementation:** Despite Libya is under their period of reconstruction, there is still areas of improvement. These improvements can be seen through the accessibility of medical

facilities and services to individuals. By establishing more medical services and facilities throughout the country, this will not only ensure that immediate medical services will be met, but these establishments as well also be used in order to provide emergency medical services in times of need. It is also important to note the different types of health care service that should be made available and accessible to vulnerable communities. Expanding and reforming the current health system in Libya will increase community participation in the health system and engage them to participate or contribute in their own way. A reformed health system overall will be a significant portion in making health services more accessible to the country. A significant component to improving medical services and accessibility, is improving and increasing medical infrastructure across the country. The establishment of these facilities will improve the accessibility of individuals. Within these established facilities, there will be a sufficient number of employees as well as necessary medical capital that will satisfy the basic needs of individuals. Both medical infrastructure, capital and reform health care services are both key components in order for, as a whole,

- b. Return on Investment Projections:** Following SDG 3: Good Health and Well-Being, this sub initiative gives Libya the foundational work in order to strive towards equitable health care. Improving health services, increases the quality of life of individuals but as well as life expectancy. This sub initiative, as a whole, ensures that equitable health care is accessible to all individuals in Libya. Restoring and establishing new infrastructure will positively impact both urban and rural areas. New established or restored infrastructure is one secured way in ensuring that medical services could be performed or available in the long run. Through the expansion of Libya's existing health care, this will be supplementary in ensuring that reforms within this subcomponent are sustainable.
 - c. Conditionality: Exceptions, Notions, etc.:** Assessments will be performed by the Bank in order to determine areas of improvements and whether medical capital and infrastructure needs to be either repaired or fully constructed. Through these assessments it will ensure that financial assistance allocated for necessary repairs or purchases. In order for investments and financial assistants to continue will be solely based off of performance examinations on performance of staff and medical facilities. There will also be separate surveys/test administered to patients in order to ensure experiences are met up to par. Medical capital will be evaluated on a monthly basis in order to ensure they are properly functioning. If these performances prove to show malfunction, the Bank will aid in the financing for repairs to be made or for replacement of medical capital.
2. Sub-Initiative 2: Ensuring medical training and education is executed nation-wide **USD 47,215,000**
- a. Strategic Focus and Implementation:** In order for medical services to be properly executed, training and education of medical staff, this sub-initiative ensures adequate training and education for medical staff and employees. Training programs in which all staffers will undergo throughout the duration of their position in order for employees to be fully capable of performing medical services and educated on current medical practices and studies. These training programs do not have a specific end in order for staff members to be constantly aware and improving in all areas surrounding providing medical services. In addition to training mentioned above, training programs will also include personality-based training and performance services in order to ensure positive relationships between employees and patients.

- b. Return on Investment Projections:** Overall, both initiatives will not only improve the accessibility of health care but community's participation in the new reforms to health care and services. The holistic training of medical personnel on two different fronts will improve the overall performance of employees. The degree of performances of employees will aid in the maintaining of newly built and recovered medical infrastructure and capital. By improving upon and adding new portions to the training of medical employees will increase community engagement and participation. This community engagement will be seen through increase in patient visits as well as regular visits with medical professionals. The increase visits and the revenue this generated is projected to be higher than the cost of continuous training programs given to medical staff throughout the country. New training programs created is also one way to create elevating opportunities from individuals.
- c. Conditionality: Exceptions, Notions, etc.:** The bank will implement, continue current financing and consider additional financing under criteria and performances of training programs. Calling upon the World Health Organization (WHO), IBRD will have the final approval of the curriculum created for both medical techniques as well as communicative practice with patients. IBRD also has the discretion to change aspects of curriculum at any given time if they see fit. Admissions of these training programs is compulsory. All current medical staff and future medical staff will undergo these training programs. Monthly admission records will be reported to the Bank in order to ensure that attendance is maintained. In order to ensure that training is effective and reflected in the works of the employees, surveys and examinations will be conducted by the bank in and outside of training programs. Periodically, IBRD will send a representative into different facilities across Libya to see whether or not goals of this sub initiative are met.

C. Disbursement Period 3: Creating and Empowering a Competitive Export Market **USD 68,950,000**

1. *(Remaining disbursement periods are truncated for brevity)*

D. IV. Disbursement Schedule

Allocations	Dollar amount allocated
1) Disbursement Period 1	USD 147,700,000
2) Disbursement Period 2	USD 151,434,200
3) Disbursement Period 3	USD 68,950,000
4) Disbursement Period 4	USD 142,400,000.00
5) Disbursement Period 5	USD 536,516,000.00
6) Front-end fee	0.25% of the loan amount within 60 days prior to first withdrawal
7) Total amount	USD 1,047,000,000.00

III. Repayment Schedule

- A. Maturation Period (in years): **11 years**
- B. Grace Period: **15 years**
- C. Interest rate **5.5%**

IV. General Conditions

- A. The International Bank for Reconstruction and Development will regularly hold macroeconomic policy discussions with the Libyan government and the Central Bank of Libya
- B. The Central Bank on Libya shall set an inflation benchmark not to exceed 9%. Barring extenuating circumstances, a national inflation rate exceeding 9% for a period of 9 months or greater breaches the loan agreement.
- C. Nationalization of oil fields or equipment exceeding that of USD 50 million by the state of Libya additionally constitutes volatile management that violates the terms of the loan agreement
- D. In the event of insufficient stability in the state of Libya, as determined by the World Bank Group, the loan agreement shall be frozen until determined by the World Bank Group
- E. The Libyan government will dedicate all necessary resources to tracking the flow of all dinars from its oil fields throughout the state and publish the data entirely with complete transparency. Any inconsistency with World Bank Group figures will trigger an investigation by World Bank Group personnel. Significant hindrance to the investigation or failure to sufficiently prioritize actions recommended by the investigation report constitutes a violation of the loan agreement.

Appendix B: Cost Comparison of ITNs and IRS (INR, 1997–1998)

Recurrent costs (INR) USD 1= INR 35.83 (1997)		% of total costs
Insecticides	307,956	10.08
Project office operating expenses	46,590	1.52
Vehicle operating expenses	93,862	3.07
Hire of IEC items	67,662	2.21
Building operating expenditure repairs and anti-termite measures	35,147	1.15
Other	2,560	0.80
Total recurrent costs	1,578,113	51.63
Capital costs		% of total costs
Mosquito nets	989,471	32.37
Equipment	157,491	5.15
Space rental (incl. project office)	119,586	3.91
Vehicles	188,881	6.18
Other (development of health education material)	22,751	0.74
Total capital costs	1,478,180	48.37
Total costs	3,056,293	100.00

Appendix C: Price and Quantity of principal inputs (INR, 1997–1998)

Cost categories	Price (INR)	Total quantity	Total cost (percentages)
Field and office staff	81	2900	2,342,900(23)
Govt supervisors	205	232	47560 (5)
Project supervisors	332	160	53,120 (5)
Others	nd	nd	688,756 (67)
(IEC, Management)			
Sub-total Personnel			1,024,336 (100)
Mosquito nets	90	35,136	989,471
Deltamethrin insecticide (12.5 ml of 2.5% flow per net treatment)	840.7	366.3	307,956
Total			2,321,763

Research and Preparation Questions

Your dais has prepared the following research and preparation questions as a means of providing guidance for your research process. Delegates are **NOT** obligated to formally answer these questions either in committee or in position papers. Rather, these questions should be carefully considered, as they embody some of the main critical thought and learning objectives surrounding your topic.

Topic A

1. Has your country shifted away from its dependence on fossil fuel as a commodity in the past? If so, how can your respective state's actions be implemented in Iraq's economy to minimize their dependency on fossil fuels?
2. How is your country specifically impacted by the usage and trade of fossil fuels? Is your country in support of sustainable consumption and production? Is Iraq's current path of development and trade economically sustainable or are there alternative measures which could be taken?
3. What specific services does your country believe would be the most impactful in sustainable fossil fuel management in Iraq? What would be the economic benefits to investments in researching renewable energy usage?
4. Does your country believe that the national government should have a role or responsibility in sustainably managing fossil fuels? If so, in what ways has the government of your country taken a large role in different sectors of the economy?
5. What type of socioeconomic policies can be recommended to Iraq in order to alleviate revenue mismanagement that could benefit its citizens in the long term?

Topic B

1. What financial products and services would be most effective in improving the quality of care and sustainability of Community Health Centers and Primary Health Centers in India? What societal and cultural stigma might prevent the efficacy of this improvement?
2. What are your country's trade relations with India? What might be some incentives for them to invest in developing India's infrastructure, or to promote or barricade India's growing pharmaceutical industry?
3. What might be some ways of overcoming healthcare worker shortages in countries and how can your country contribute to this issue? What is the importance of developing human capital and its relationship with growth?
4. What is your country's stance on the allocation of funds towards public vs. private goods? How might your country wish to distribute the loan across the different sectors required in order for the project to succeed? What are the dangers of neglecting public healthcare and why might your country have a stake in this issue?
5. What is the level of public health development in your country? Why do you think discussion of this topic will aid or be detrimental to your country's development and how might the impact of public health development in India affect your country?
6. What is the role of healthcare coverage in NTD eradication? How might universal healthcare be a consideration in combating NTDs? In what ways can IBRD incent an increase in healthcare coverage in rural areas? How might your country go about making biotechnology profitable to combat NTDs in rural areas?

Important Documents

Topic A

“Development Fund for Iraq.” *Global Policy Forum*. Accessed 8 July 2019. <https://www.globalpolicy.org/humanitarian-issues-in-iraq/development-fund-for-iraq.html>.

Analyzes the shortcomings of Iraq’s Development Fund and where improvements could be made in order for it to be more beneficial to citizens in Iraq.

Gould, Tim. “Economic Diversification for Oil and Gas Exporters Doesn’t Mean Leaving Energy behind.” *The International Energy Agency*. Last modified 25 October 2018. <https://www.iea.org/newsroom/news/2018/october/economic-diversification-for-oil-and-gas-exporters-doesnt-mean-leaving-energy-be.html>.

This source combines the idea of economic diversification and the need for clean energy. The source shows how the oil sector could still remain as a significant role in the economy while still promoting clean energy.

Meredith, Sam. “The Oil Market Is Becoming Increasingly Dangerous, Analysts Say - and Crude Prices Are Feeling the Pressure.” *CNBC*. 19 July 2018. <https://www.cnbc.com/2018/07/19/oil-prices-energy-market-is-becoming-increasingly-dangerous-analysts.html>.

This source gives the current status of the global oil market and predicts the trajectory it is heading.

Mittleman, Melissa. “The Resource Curse.” *Bloomberg*. Last modified 19 May 2017. <https://www.bloomberg.com/quicktake/resource-curse>.

Gives a brief description of the resource curse and the different obstacles many developing countries face when they try to get out of the resource curse.

Mohaddes, Kamiar. “Oil Revenue Volatility, Sanctions and Mismanagement: Lessons from Iran.” *University of Cambridge*. Last modified 17 May 2019. http://www.econ.cam.ac.uk/people-files/faculty/km418/Oil_Revenue_Volatility_Sanctions_and_Mismanagement_-_Lessons_from_Iran.pdf.

Explains specifically different economic policies of Arab countries who are dependent upon revenues from natural resources. This source shows the possible situations which could occur if revenues are not properly managed.

“Project Appraisal Document.” *World Bank*. Last modified 19 April 2019. <http://documents.worldbank.org/curated/en/504001557108087756/pdf/Iraq-Electricity-Services-Reconstruction-and-Enhancement-Project.pdf>.

This source is an appraisal document from IBRD to Iraq in order to aid them in giving their citizens access to sustainable energy. Similar to appraisal documents of the World Bank, this document describes the different significant statistics and conditionalities which form an overall loan project of IBRD.

Turak, Natasha. “Iraq Could Be the next to Break Ranks with OPEC, Analyst Says.” *CNBC*. Last modified 11 December 2018. <https://www.cnbc.com/2018/12/04/iraq-could-be-the-next-to-quit-opec-after-qatar.html>.

This source explains the resource curse, specifically in Iraq. By comparing the characteristics of Iraq to countries such as Nigeria whom also suffer from the resource curse, this source argues that certain reforms Iraq needs to undergo in order for the country to not be in the resource curse any longer.

Topic B

“Arguing for universal health coverage.” *WHO*. Accessed 30 October 2019. https://www.who.int/health_financing/UHC_ENvs_BD.PDF.

Offers both the challenges and positive effects to universal health care. While the source highlights the financial challenges countries may face when attempting to provide universal health coverage to all its citizens, it stresses the larger positive benefits that trump the financial challenges countries may face in the short run.

Cashwell, Amber, A Tantri, A Schmidt, G Simon, N Mistry. “BRICS in the Response to Neglected Tropical Diseases.” *Bulletin of the World Health Organization* 92, no. 6 (1 June 2014): 461–62. <https://www.ncbi.nlm.nih.gov/pubmed/24940024>.

Gives the response and specific policies the alliance BRICS has on neglected tropical diseases. As India is a member of this alliance, the policies of other larger nations affect the partnerships India could form to address this pressing issue.

Kolaczinski, Jan H., Emily Robinson, and Timothy P. Finn. “The Cost of Antibiotic Mass Drug Administration for Trachoma Control in a Remote Area of South Sudan.” *PLOS Neglected Tropical Diseases* 5, No. 10 (11 October 2011): e1362. <https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0001362>.

A specific case study of the financial and economic journey of how Sudan financed the mass drug administration of antibiotic to treat Trachoma. The location used in this case study offers insight into how diseases are treated in both urban and rural areas.

Subbaraman, Ramnath and Sharmila L Murthy. “WHO | The Right to Water in the Slums of Mumbai, India.” *WHO*. Last updated 6 October 2015. <http://www.who.int/bulletin/volumes/93/11/15-155473/en/>.

A source on the importance of government recognition of slums in order for citizens to gain access to water. Contains in-depth information on the costs and benefits of current and potential water use in India, as well as an informative diagnosis of the state and the role of India’s slums in the country.

“Vector-Borne Diseases.” *WHO*. Last modified 31 October 2017. <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>.

Explains the definition of vector-borne diseases. The source gives delegates an important distinction between the two types of diseases which could be at times intertwined incorrectly. The source also offers significant statistics as to the role vector-borne diseases play in the entire global health system.

Works Cited

Committee History and Simulation

“General Conditions for IBRD Financing: Program for Results.” *World Bank*. Last modified 7 June 2019. <https://policies.worldbank.org/sites/ppf3/PPFDocuments/c76a3e32377c4bb88bf817c612931511.pdf>.

This source explains specific technical aspects of conditions that all loan proposals from the World Bank and IBRD must include. It also shows how different loan projects are subjected to different conditions that must be met in order for a borrower to receive disbursements.

“Getting to Know the World Bank.” *World Bank*. Last modified 26 July 2012. https://www.worldbank.org/en/news/feature/2012/07/26/getting_to_know_theworldbank.

A comprehensible explanation to the World Bank, its different financial institutions, and its overall role within global development. This source allows for a general understanding of the different missions of the World Bank and how the financial institution tries to implement these missions

“History.” *International Development Association - World Bank*. Accessed 6 September 2019. <http://ida.worldbank.org/about/history>.

Gives a historical description of the IDA. Within this source, it shows how the mandate is different from IBRD.

“History.” *World Bank*. Accessed 21 September 2019. <https://www.worldbank.org/en/about/history>.

Another source which gives the history of the World Bank and how the institution has changed throughout the course of its existence.

“Human Capital Project: A Project for the World.” *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/publication/human-capital>.

This source is a brief overview of a specific general objective the World Bank is attempting to execute.

“IBRD Activities and Achievements.” *World Bank*. Accessed 21 September 2019. <https://www.worldbank.org/en/who-we-are/ibrd/impact>.

Gives a specific analysis to different activities in IBRD has established in different regions and countries.

“International Bank for Reconstruction and Development.” *The Columbia Encyclopedia*. Last modified 21 September 2019. <https://www.encyclopedia.com/reference/encyclopedias-almanacs-transcripts-and-maps/international-bank-reconstruction-and-development>.

Explains some differences between IBRD and different financial institutions that are a part of the World Bank Group.

“Iraq Social Fund for Development.” *World Bank*. Accessed 28 September 2019. <https://projects.worldbank.org/en/projects-operations/project-detail/P163108>.

This source is a specific example to a partnership between Iraq and IBRD.

Kenton, Will “International Bank for Reconstruction and Development (IBRD).” *Investopedia*. Last modified 16 May 2019. <https://www.investopedia.com/terms/i/international-bank-of-reconstruction-and-development.asp>

Explains the impact of IBRD in context to the general World Bank Group as well as to developing states.

“Lending Rates & Fees.” *World Bank*. Accessed 28 September 2019. <https://www.worldbank.org/en/about/unit/treasury/ibrd-financial-products/lending-rates-and-fees>.

Gives specifics to the lending rates and mature rates for each of the borrower.

“Products and Services.” *World Bank*. Accessed 21 September 2019. <https://projects-beta.worldbank.org/en/projects-operations/products-and-services>.

Gives an analysis to the different products or services that IBRD offers to their borrowers.

“Program Towards Elimination of Tuberculosis.” *World Bank*. Accessed 21 September 2019. <https://projects-beta.worldbank.org/en/projects-operations/project-detail/P167523>.

A great source that summarizes the World Bank’s long-term efforts to eradicate tuberculosis around the world.

“The International Finance Corporation’s Approach to Engaging Clients for Increased Development Impact.” *Independent Evaluation Group - World Bank Group*. Accessed 30 October 2019. <https://ieg.worldbankgroup.org/evaluations/ifc-client-engagement>

This gives an analysis and explanation to the IFC. More importantly this source explains what makes IFC different financial institutions.

United States of America. “Proceedings and Documents of the United Nations Monetary and Financial Conference, Bretton Woods, New Hampshire, July 1-22, 1944” Volume I (n.d.): 1135.

Gives the original mandate and responsibilities of IBRD when it was first established at the Bretton Woods Conference.

“What Is IDA?” *International Development Association - World Bank*. Accessed 12 September 2019. <http://ida.worldbank.org/about/what-is-ida>.

Gives a general description of what the IDA is and how it specifically differs from other institutions in the World Bank Group. This source also explains the specific activities the IDA engage in.

“Who We Are: International Bank for Reconstruction and Development.” *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/who-we-are/ibrd>.

This source from the World Bank explains the significance of IBRD and how it could collaborate with different financial institutions in the WBG.

World Bank. *The World Bank annual report 2017 : end extreme poverty. boost shared prosperity : Main report (English)*. Accessed 30 October 2019. <http://documents.worldbank.org/curated/en/132951507537966126/Main-report>.

The World Bank’s annual report for 2017, which details its primarily accomplishments and goals for the year.

Topic A

UN Sources

“About the Human Capital Project.” *World Bank*. Accessed 29 October 2019. <https://www.worldbank.org/en/publication/human-capital/brief/about-hcp>.

World Bank introduction about the Human Capital Project, a primary focus of the World Bank

“About the Sustainable Development Goals - United Nations Sustainable Development.” *United Nations*. Accessed 19 July 2019. <https://www.un.org/sustainabledevelopment/sustainable-development-goals>.

Gives a brief description of the Sustainable Development Goals and the overall goal of having them in place.

“Education.” *United Nations Children’s Fund*. Accessed 29 October 2019. <https://www.unicef.org/iraq/what-we-do/education>.
This source provides an overview of the challenges the UNICEF mission faces in Iraq as well as some solutions.

“GDP (current US\$).” *World Bank*. Accessed 20 July 2019. <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=IQ>.

The World Bank’s “World Development Indicator” gives the economic statistics of Iraq’s GDP in current US dollars over the span of several decades.

“Sustainable Development Goals.” *United Nations*. Accessed 29 October 2019. <https://sustainabledevelopment.un.org/?menu=1300>.

Gives a general explanation as to what the Sustainable Development Goals are and more specifically the different ways, the United Nations are measuring the progress of these goals.

“Who We Are: International Bank for Reconstruction and Development.” *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/who-we-are/ibrd>.

This source from the World Bank explains the significance of IBRD and how it could collaborate with different financial institutions in the WBG

“World Development Indicator.” *World Bank*. Accessed 29 October 2019. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.

Database created by the World bank which gives data of the different indicators which encompass the overall development of member countries in the World Bank. Indicators within this database could be average GDP growth, mortality rate or net inflows of Foreign Direct Investments.

Non-UN Sources

Abdo, Geneive. “Iraq Prepares to Evict U.S. Troops.” *Foreign Policy*. Last modified 20 March 2019. <https://foreignpolicy.com/2019/03/20/iraq-prepares-to-evict-u-s-troops/>.

Explains the current situation of how different Iraqi leaders are attempting to push legislations to remove US troops from Iraq.

Abdulkadir, M., A. G. Isah, and Y. Sani. “The Effect of Gas Flaring on the Environment and its Utilization (Case Study of Selected Villages in Niger Delta Area of Nigeria).” *Journal of Basic and Applied Scientific Research* 3, No. 4 (2013): 283-291. <https://pdfs.semanticscholar.org/ef12/066c190fc9d9c72a6fbeb0f081224bf80860.pdf>.

Uses Nigeria as a specific case study to show the different effects of gas flaring within the country.

Acemoglu, Daron and James Robinson. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*, (London: Profile Books, 2012).

This book, written by an economist and political scientist, explains how fear of government seizure reduces investor confidence and lead to poor economic growth and development.

Al-Alaak, Mehdi, Nandini Krishnan, Sergio Ilivieri, and Lycia Lima. "The unfulfilled promise of oil and growth : poverty, inclusion and welfare in Iraq 2007-2012 (Vol. 2)," *World Bank*. Last modified 1 December 2014. <http://documents.worldbank.org/curated/en/752991468261314600/The-unfulfilled-promise-of-oil-and-growth-poverty-inclusion-and-welfare-in-Iraq-2007-2012>.

Explains how oil revenue it generates could help alleviate poverty in Iraq.

Al-Mawlawi, Ali. "Analyzing Growth Trends in Public Sector Employment in Iraq." *London School of Economic and Political Science*. Last modified 31 July 2018. <https://blogs.lse.ac.uk/mec/2018/07/31/analysing-growth-trends-in-public-sector-employment-in-iraq/>.

This source shows the current progression of the public sector of Iraq and the consequences which have followed it from its expansion.

Amadeo, Kimberly. "Foreign Direct Investments: How FDI affects your life." *The Balance*. Last modified 25 June 2019. <https://www.thebalance.com/foreign-direct-investment-fdi-pros-cons-and-importance-3306283>.

This source attempts to explain the real-life effects of FDIs in a society. By giving these real-life effects, it helps better explain the significant role FDI have in a country, more specifically a developing country.

Amadeo, Kimberly. "OPEC and Its Goals, Members, and History: What are its top three goals?." *The Balance*. Last modified 10 July 2019. <https://www.thebalance.com/what-is-opec-its-members-and-history-3305872>.

This source shows the overall general objectives of OPEC their overall vision of the oil market. This source gives specific statistics in terms of the prices of oil barrels and the stable range in which OPEC wishes the price of oil to remain.

Assair, Abbas, Bahram Sahabi, Amir Hossein Mozayyeni, and Ahmad Rasouli. "The Effects of the Resource Curse Indices and Good Governances on Health Expenditures and Different income Deciles." *Mediterranean Journal of Social Sciences* 7, No. 4 (August 2016): 203-213. <https://pdfs.semanticscholar.org/71aa/c4b8a662b0c178dd166d46170bd85ca5e4d2.pdf>.

Explains the negative impacts of the resource more specifically within the health sector of developing countries. This source also shows how the resource curse perpetuates inefficient government systems in these affected countries.

Barone, Adam. "Government Imposed Quota Can Limit Imports and Exports." *Investopedia*. Last modified 14 April 2019. <https://www.investopedia.com/terms/q/quota.asp>.

This source shows the economic impacts to when individual governments impose quotas. This source specifically looks at how quotas can affect the ratio of exports and imports on a country.

Brown, Michael E. "The Nationalization of the Iraqi Petroleum Company." *International Journal of Middle East Studies* 10, No. 1 (1979): 107-24. <http://www.jstor.org.proxyau.wrlc.org/stable/162481>.

This source gives the general history of Iraq nationalizing one of the largest oil companies in the nation. Through the history of this process, this source shows both the positive and negative effects which can come out of nationalizing resources and private companies.

"BRICS against foreign interference in Iraq-summit declaration." *Tass*. Last modified 9 July 2015. <https://tass.com/world/807385>.
This article covers Brazil, Russia, India, and China, and South Africa's position on foreign interference in Iraq.

"Budgets: a guide to best practice in transparency, accountability, and civic engagement across the public sector." *Transpar-*

ency and Accountability Initiative. Last modified 12 March 2017. <https://www.transparency-initiative.org/wp-content/uploads/2017/03/3-budgets1.pdf>.

This source offers specific methods in which governments could increase transparency between public sector agencies and its constituents. The different recommendations that it gives as a whole are supposed to increase political stability, but the welfare of the citizens as well.

Calabrese, John. "Bridge to a Brighter Future? South Korea's Economic Relations with the Gulf." *Middle East Institute*. Last modified 8 January 2019. <https://www.mei.edu/publications/bridge-brighter-future-south-koreas-economic-relations-gulf>.

This article covers the budding economic relationship between Kuwait and South Korea and both of their goals with the partnership.

Chappelow, Jim. "Real Gross Domestic Product (GDP) Definition." *Investopedia*. Last modified 23 October 2019. <https://www.investopedia.com/terms/r/realgdp.asp>.

This source gives the definition of what Real GDP is and its significance in economies. This source also gives examples in governments to how Real GDP is calculated as well as different factors which causes it to change.

Carpenter, J. William. "The World's Biggest State-Owned Oil Companies." *Investopedia*. Last modified 9 Nov 2018. <https://www.investopedia.com/articles/investing/121715/worlds-biggest-state-owned-oil-companies.asp>.

Gives a list of the largest state-owned oil companies in the world. This source explains the significance of state-owned oil companies in the global oil market and the effect there is when there is a change in the price of oil.

"Cartels." *Economics Online*. Accessed 20 July 2019. https://www.economicsonline.co.uk/Business_economics/Cartels.html.

This source explains the significance of cartels, especially in the oil industry. This source shows how cartels can play a significant role in controlling the price of oil and the overall effect this action has.

Chen, James. "Cartel." *Investopedia*. Last modified 17 January 2018. <https://www.investopedia.com/terms/c/cartel.asp>.

This source gives the definition and examples of what a n economic cartel is. Through this definition and real-world example of what a cartel is, this source shows delegates how cooperation with different firms can control the price of a high demanded good.

Chen, James. "Organization Of Petroleum Exporting Countries (OPEC)." *Investopedia*. Last modified 6 September 2019. <https://www.investopedia.com/terms/o/opec.asp>.

This source gives a brief description of OPEC and its significance in the overall global economy. This source specifically discusses the impact of individual economies that are members in the organization.

Cordesman, Anthony H. "War and the Iraqi Economy: A Case Study." *Center for Strategic and International Studies*, Last modified 15 September 2015. <https://www.csis.org/analysis/war-and-iraqi-economy-case-study>.

This source is an example of a specific type of economy Iraq was categorized under during a specific period of time. Special forms of economies such as the one mentioned in the source also gives delegates the reason economies shift a specific way and the lasting impacts of these shifts.

"Crude Oil Prices - 70 Year Historical Chart." *MacroTrends*. Accessed 20 July 2019. <https://www.macrotrends.net/1369/crude-oil-price-history-chart>.

This database gives the monthly price of oil per barrel over the course of 70 years. The extensive length of this database as well as the monthly differences in the price of oil is an example of to see how quickly the price of oil could change.

“Daily Global Crude Oil Demand 2006-2019.” *Statista*. Accessed 20 July 2019. <https://www.statista.com/statistics/271823/daily-global-crude-oil-demand-since-2006>.

Database which gives the global demand of oil monthly from 2006 to 2019. This database shows the changes in global oil across different decades.

“Development Fund for Iraq.” *Global Policy Forum*. Accessed 8 July 2019. <https://www.globalpolicy.org/humanitarian-issues-in-iraq/development-fund-for-iraq.html>.

Analyzes the shortcomings of Iraq’s Development Fund and where improvements could be made in order for it to be more beneficial to citizens in Iraq.

DiChristopher, Tom and Sam Meredith. “OPEC and Allies Agree to Cut Oil Production by 1.2 Million Barrels per Day.” *CNBC*. Last modified 7 December 2018. <https://www.cnn.com/2018/12/07/opec-meeting-saudi-arabia-and-russia-look-to-impose-production-cuts.html>.

This source further analyzes the possible effects to Iraq breaking the protocol of OPEC and producing more oil than necessary in order to meet the need from their trading partners.

Dorsey, Michael. “Fighting oil spills with fire.” *International Fire Fighter*. Last modified 12 June 2017. <https://iffmag.mdmpublishing.com/fighting-oil-spills-with-fire>.

Explains what gas fires are, how they are created, and its effect on the overall environment.

“Embezzle.” *Merriam-Webster*. Accessed 8 July 2019. <https://www.merriam-webster.com/dictionary/embezzle>.

This source gives the definition of what embezzling is. For delegates, this source is one specific example in which Iraq can mismanage their revenue.

“Emergency Operation for Development Project - Additional Financing.” *World Bank*. Accessed 19 July 2019. <http://projects.worldbank.org/P161515/?lang=en&tab=overview>.

This document from the World Bank is another project that Iraq partnered with in 2017. This project specifically focused on recovery after the liberation of ISIS.

“Environmental and Social Framework.” *World Bank*. Last modified 1 October 2018. <https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>.

This source describes a specific framework the United Nations offers for loan recipient countries could possibly receive on top of their loans. This source also explains the different services which are offered under this framework in order to promote environmental consciousness among developing countries.

Felsenthal, Adam. “Is Iraq The Next Nigeria? Revenue Sharing And The Natural Resource Curse.” *Arizona Journal of International and Comparative Law* 27, No. 3 (October 2010): 787–833. <http://search.proquest.com/docview/875713705/>.

Specific case study of Iraq who has not economically developed as project due to their status of being in the resource curse.

Gallagher, Mike. “The ‘beauty and the horror of the Iran -Iraq war.” *BBC News*. Last modified 26 September 2015. <https://www.bbc.com/news/magazine-34353349>.

This source explains the history and the lasting impacts of the Iraq and Iran war. Through this source, delegates are able to understand the economic consequences of this war and its significance in the shaping of Iraq’s overall economy.

“Gas Flaring Reduction.” *World Bank*. Accessed 29 October 2019. <https://www.worldbank.org/en/topic/gas-flaring-reduction>.

Gives the World Bank's definition to what gas flaring is and the reason behind the strong need to reduce the amount of gas flaring in the world.

“Goal 12.....Sustainable Development Goals Knowledge Platform.” *United Nations*. Accessed 29 October 2019. <https://sustainabledevelopment.un.org/sdg12>.

Provides a closer look at goal 12 of the SDGs as well as specific targets the UN hopes to achieve under this goal.

Gould, Tim. “Economic Diversification for Oil and Gas Exporters Doesn’t Mean Leaving Energy behind.” *The International Energy Agency*. Last modified 25 October 2018. <https://www.iea.org/newsroom/news/2018/october/economic-diversification-for-oil-and-gas-exporters-doesnt-mean-leaving-energy-be.html>.

This source combines the idea of economic diversification and the need for clean energy. The source shows how the oil sector could still remain as a significant role in the economy while still promoting clean energy.

“How to Compete in an Overcrowded Industry.” *Business Town*. Last modified 12 July 2017. <https://businesstown.com/how-to-compete-in-an-overcrowded-industry/>.

Explains how overcrowded industries form and the dangers it follows for an individual economy.

“Human Capital Project: A Project for the World.” *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/publication/human-capital>.

This source is a brief overview of a specific general objective the World Bank is attempting to execute.

“Human Capital Project.” *World Bank*. Accessed 30 October 2018. <https://www.worldbank.org/en/publication/human-capital#News>.

Gives an overview description of the World Bank's human capital development project. This source also gives a description of the specific ways in which the World Bank is attempting to promote human capital in developing countries.

Irmia, Ramona-Elena and Marc Gottschling. “Taxonomic Revision of *Rocheportia* Sw. (Ehretiaceae, Boraginales).” *Biodiversity Data Journal* 4 (June 2016). <https://doi.org/10.3897/BDJ.4.e7720>.

This journal article provides scientific information on the Rocheportia, which is a small taxon of woody plants.

“Iraq.” *Economic Freedom Index*. Accessed 29 October 2019. <https://www.heritage.org/index/country/iraq>.

This source provides insight into Iraq's government structure, market, and other indicators of freedom in the country.

“Joint Statement by HR/VP Mogherini and Iraqi Foreign Minister Alhakim on the EU-Iraq Relations and Regional Cooperation.” *European Union External Action*. Last modified 13 July 2019. https://eeas.europa.eu/headquarters/headquarters-homepage/65415/joint-statement-hrvp-mogherini-and-iraqi-foreign-minister-alhakim-eu-iraq-relations-and_fi.

A great example of the kinds of international cooperative investments that can make a difference in the region.

Kalin Stephen, and Rania El Gamal. “Saudi Oil Facilities Attacked. U.S. Sees Threat in Iraq From.” *Reuters*. Last modified 14 May 2019. <https://www.reuters.com/article/us-saudi-oil-usa-iran/saudi-oil-facilities-attacked-u-s-sees-threat-in-iraq-from-iran-backed-forces-idUSKCN1SK0YM>.

This article covers the May 2019 attack on two Saudi Arabia pumping stations as well as the US reaction to the drone strikes.

Kanter, Hannah. "Female Participation Benefits to the Labor Force." *Wharton University of Pennsylvania Public Policy Initiative*. Last modified 16 September 2018. <https://publicpolicy.wharton.upenn.edu/live/news/2611-female-participation-benefits-to-the-labor-force/for-students/blog/news.php>.

This article shows the economic benefits of gender equity in the labor force and how it can benefit countries by a vast amount.

Kenton, Will. "Demand Elasticity." *Investopedia*. Last modified 3 October 2019. <https://www.investopedia.com/terms/d/demand-elasticity.asp>.

Explains the economic theory of demand elasticity. Outside of giving examples, this theory could be applied to the case of oil and how its large demand is subjected to the changing the price of the good.

Kenton, Will. "Infant-Industry Theory." *Investopedia*. Last modified 1 October 2019. <https://www.investopedia.com/terms/i/infantindustry.asp>.

Explains the definition of what an infant industry is and its possible significance in the global economy. This source also explains the effect countries who have a large dependency on infant industries.

Kenton, Will. "Nationalization." *Investopedia*. Last modified 30 March 2018. <https://www.investopedia.com/terms/n/nationalization.asp>

Gives the definition to what nationalization is

Kenton, Will. "Understanding Externalities." *Investopedia*. Last modified 26 May 2019. <https://www.investopedia.com/terms/e/externality.asp>.

This source explains the definition of what an externality is and how it could be applicable to many different things. This term is significant for delegates to know which is key to keep in mind when making specific changes.

"Learn from Iraq, Libya Lavrov warns US." *The BRICS Post*. Last modified 13 April 2018. <https://www.thebricspost.com/learn-from-iraq-libya-lavrov-warns-us/>.

This article covers Russian Foreign Minister Sergei Lavrov's opinions on US intervention in the Middle East.

Lianos, Miguel. "Oil spill industry on Iraq standby." *NBC News*. Last modified 6 March 2019. <http://www.nbcnews.com/id/3073272/t/oil-spill-industry-iraq-standby/#.XVnfhWRKjOQ>

This article explains the different ways in which Iraq's oil sector could be more prosperous for the economy. This source also explains the different issues within the oil industry in Iraq.

Lim, Mee Wei, Ee Von Lau, and Phaik Eong Poh. "A Comprehensive Guide of Remediation Technologies for Oil Contaminated Soil — Present Works and Future Directions." *Marine Pollution Bulletin* 109, No. 1 (August 2016): 14–45. <https://www.sciencedirect.com/science/article/pii/S0025326X16302247>.

Gives the environmental impacts of the production of oil.

Lioudis, Nick. "The Importance of Diversification." *Investopedia*. Last modified 15 August 2019. <https://www.investopedia.com/investing/importance-diversification/>.

This source explains the significance of a diverse economy especially for developing countries. The author argues that despite the high cost it may take

for some countries to diversify their economy, the costs are justifiable for the possible long-term benefits.

López, Javi. "Iraq: Back to Square One." *European Council on Foreign Relations*. Last modified 29 March 2018. https://www.ecfr.eu/article/commentary_iraq_back_to_square_one.

The source discusses the policy of the EU involving Iraq as well as its humanitarian and political work it has been doing to support the country's growth.

Magid, Pasha. "How Europe Is Handing Off Its ISIS Militants to Iraq." *Foreign Policy*. Last modified 14 June 2019. <https://foreignpolicy.com/2019/06/15/how-europe-is-handing-off-its-isis-militants-to-iraq/>.

Explains the current ways the EU is aiding in Iraq's recovery of the ISIS occupation.

Mansour, Renad. "Saudi Arabia's New Approach in Iraq." *Center for Strategic and International Studies*. Last modified 6 November 2018. <https://www.csis.org/analysis/saudi-arabias-new-approach-iraq>.

This statement explains the current relationship between the European Union and Iraq and future ways the relationship could grow.

"Mapping the Oil and Gas Industry to the Sustainable Development Goals: an Atlas." *International Petroleum Industry Environmental Conservation Group*. Last modified 19 July 2017. http://www.ipieca.org/media/3093/mapping_og_to_sdg_atlas_lr_2017.pdf.

This guiding document provides insight into how the oil and gas industry and support the achievement of the SDGs and the 2030 agenda.

Meredith, Sam. "The Oil Market Is Becoming Increasingly Dangerous, Analysts Say - and Crude Prices Are Feeling the Pressure." *CNBC*. 19 July 2018. <https://www.cnn.com/2018/07/19/oil-prices-energy-market-is-becoming-increasingly-dangerous-analysts.html>.

This source gives the current status of the global oil market and predicts the trajectory it is heading.

Mittleman, Melissa. "The Resource Curse." *Bloomberg*. Last modified 19 May 2017. <https://www.bloomberg.com/quicktake/resource-curse>.

Gives a brief description of the resource curse and the different obstacles many developing countries face when they try to get out of the resource curse.

Mohaddes, Kamia. "Oil Revenue Volatility, Sanctions and Mismanagement: Lessons from Iran." *University of Cambridge*. Last modified 17 May 2019. http://www.econ.cam.ac.uk/people-files/faculty/km418/Oil_Revenue_Volatility_Sanctions_and_Mismanagement_-_Lessons_from_Iran.pdf.

Specific analyzes the negative effects of mismanagement of oil revenues. By using a case study of Iran which has similar attributes to Iraq, the source offers delegates context to how theories mentioned would affect a country's economy.

"Nationalisation." *Economics Online*. Accessed 8 July 2019. https://www.economicsonline.co.uk/Business_economics/Nationalisation.html.

This source gives the general definition of what nationalization is. By giving the definition and most common implications for why countries nationalize their natural resources, it shows delegates the rationality to why countries would want to undergo nationalization.

"Oil: crude and petroleum products explained." *US EIA*. Accessed July 08. 2019. <https://www.eia.gov/energyexplained/index>.

php?page=oil_environment.

Explains the effect oil and its production has on the overall environment. This source shows how oil production can negatively affect different aspects of the environment.

Otterman, Sharron. "IRAQ: Oil for Food Scandal." *Council on Foreign Relations*. Last modified 28 October 2005. <https://www.cfr.org/background/iraq-oil-food-scandal>.

This source explains the Iraq for Food Programme and the scandal which arose out of it. Overall, this source shows the negative consequences of mismanagement of revenue allocation and management.

"Program Information Document, Appraisal Stage." *World Bank*. Last modified 7 December 2016. <http://documents.worldbank.org/curated/en/192571481256568050/pdf/110866-PGID-P161167-Appraisal-Stage-Box396337B-PUBLIC-Discovered-12-8-2016.pdf>.

This source is the appraisal document of the World Bank's Rationalization, Energy Efficiency and State-owned Enterprise Governance Program. Within the document, there are significant information such as the amount that will be distributed to Iraq, specific conditionalities of the loan as well as indicating the different initiative projects that each money disbursement will go to.

"Project Appraisal Document." *World Bank*. Last modified 19 April 2019. <http://documents.worldbank.org/curated/en/504001557108087756/pdf/Iraq-Electricity-Services-Reconstruction-and-Enhancement-Project.pdf>.

This source is an appraisal document from IBRD to Iraq in order to aid them in giving their citizens access to sustainable energy. Similar to appraisal documents of the World Bank, this document describes the different significant statistics and conditionalities which form an overall loan project of IBRD.

Qabazard, Hasan M., Mario Fantini, and Michael Haderer. *I Need to Know: An Introduction to the Oil Industry and OPEC*. (Vienna: OPEC, 2013). Accessed 29 October 2019. https://www.opec.org/opec_web/static_files_project/media/downloads/publications/ChildrenBook2013.pdf.

This source gives an overview to oil, its significance in the overall economy as well as the general history of OPEC as an organization to its primary purposes, to recent achievements of the organization.

Rasheed, Ahmed. "Iraq Says It Has Enough Oil Capacity to Meet Customer Needs." *Reuters*. Last modified 25 April 2019. <https://www.reuters.com/article/us-oil-opec-iraq/iraq-says-it-has-enough-oil-capacity-to-meet-customer-needs-idUSKCN1S10Y8>.

This source further analyzes the possible effects to Iraq breaking the protocol of OPEC and producing more oil than necessary in order to meet the need from their trading partners.

Rosenberg, Tina. "Can Hugo Chavez's 'oil socialism' show resource-rich countries the way to stability and prosperity? Or is it just the oil curse in a new guise." *The New York Times Magazine*. 4 November 2007. <https://www.amherst.edu/media/view/32085/original/PerilsOfPetrocracy.pdf>.

This case study explains the negative effects and possible events which occur when developing countries transition into nationalization.

Sergie, Mohammed and Verity Ratcliffe. "Iraq Is Finally Pumping Enough Oil to Flex Its Muscles in OPEC." *Bloomberg*. Last modified 10 April 2019. <https://www.bloomberg.com/news/articles/2019-04-10/iraq-is-finally-pumping-enough-oil>.

to-flex-its-muscles-in-opec.

Explains the ongoing tensions between Iraq and OPEC. This source gives delegates a glimpse to the amount of oil Iraq can do and the possible events which can follow if Iraq decides to produce more than OPEC's standards.

Shehabaldin, Ahmed and William M. Laughlin, Jr. "Economic Sanctions Against Iraq: Human and Economic Costs." *The International Journal of Human Rights* 3, 1-18. <https://www.tandfonline.com/doi/abs/10.1080/13642989908406841>.

This source explains the impacts of sanctions on Iraq both economically and humanitarian. By explaining how detrimental sanctions could be, the source shows delegates how deadly sanctions could be and the challenges to recover from them.

"Sustainable Development Goals (SDGs) and the 2030 Agenda." *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/programs/sdgs-2030-agenda>.

Goes into explanation of the partnership the World Bank has with the United Nations to promote the SDGs. this source also goes into explanation to how the World Bank has their own program which strives to achieve sustainable development in 2030.

"Technology Has Already Taken over 90% of the Jobs Humans Used To Do." *Forbes*. Last modified 18 January 2018. <https://www.forbes.com/sites/quora/2018/01/18/technology-has-already-taken-over-90-of-the-jobs-humans-used-to-do/#6abdfd401bdd>.

This source shows how the rise of technology and artificial intelligence has disrupted the labor market. Through this disruption, the article shows how workers and the global labor market has been affected by this.

"The Benefits and the Curse of Oil." *The Economist*. Last modified 4 August 2008. <https://www.economist.com/middle-east-and-africa/2008/08/14/the-benefits-and-the-curse-of-oil>.

The article shows both the positive and negative benefits to countries who have a high abundance of oil reserves. Incorporating the theory of the resource curse, the source shows how the abundance of natural resources could be extremely beneficial to an economy if managed properly. At the same time, however, the source shows the negative cyclical consequences that would follow a country if they mismanage their resources.

"The Development Fund for Iraq." *Coalition Provisional Authority*. Accessed July 08. 2019. https://govinfo.library.unt.edu/cpa-iraq/budget/DFI_intro1.html.

Describes Iraq's sovereign wealth fund and its role in the overall economy.

"The Formation of Fossil Fuels." *Rice University*. Accessed 30 October 2019. <https://www.acaedu.net/cms/lib3/TX01001550/Centricity/Domain/389/5.7A%20Formation%20of%20Fossil%20Fuels.pdf>

This source explains how fossil fuels are forms and the different externalities which would occur as a result of it .

"The Resource Curse: The Political and Economic Challenges of Natural Resource Wealth." *The National Resource Governance Institute*. Last modified March 2015. https://resourcegovernance.org/sites/default/files/nrgi_Resource-Curse.pdf.

This source gives a general explanation of the different factors which causes why countries fall into the cycle of the resource curse.

"The World Bank Allocates \$200 million to Boost Basic Education in Rwanda." *World Bank*. Last modified 1 August 2019. <https://www.worldbank.org/en/news/press-release/2019/08/01/the-world-bank-allocates-200-million-to-boost-ba>

sic-education-in-rwanda.

This press statement from the World Bank is a specific example of how the World Bank is partnering with different countries to promote human capital development.

“Towards a Clean, Green, Resilient World for All.” *World Bank*. Accessed 30 October 2019. <https://www.worldbank.org/en/topic/environment/publication/environment-strategy-toward-clean-green-resilient-world>.

This source explains the specific measures and subjects the World Bank wishes to target.

“Tunisia Innovative Startups and SMEs Project.” *World Bank*. Accessed 19 July 2019. <http://projects.worldbank.org/P167380?lang=en>.

An appraisal document for a project partnership between the World Bank and Tunisia which focused on the promotion of national Small and Medium Enterprises.

Turak, Natasha. “Iraq Could Be the next to Break Ranks with OPEC, Analyst Says.” *CNBC*. Last modified 11 December 2018. <https://www.cnn.com/2018/12/04/iraq-could-be-the-next-to-quit-opec-after-qatar.html>.

This source explains the resource curse, specifically in Iraq. By comparing the characteristics of Iraq to countries such as Nigeria whom also suffer from the resource curse, this source argues that certain reforms Iraq needs to undergo in order for the country to not be in the resource curse any longer.

Turak, Natasha. “Iraq’s massive 2019 budget still Fails to address reform needs, expert says.” *CNBC*. Last modified 30 January 2019. <https://www.cnn.com/2019/01/30/iraqs-massive-2019-budget-still-fails-to-address-reform-needs.html>.

This article explains how Iraq’s annual federal budget could be improved upon. The source also explains where there could have been possible relocation.

“Understanding the Basics of Gas Flaring.” *Ohio Environmental Protection Agency*. Accessed 30 October 2019. <https://epa.ohio.gov/Portals/27/oil%20and%20gas/Basics%20of%20Gas%20Flaring.pdf>.

An analysis of what gas flares are and why it is used by many countries and oil companies. This source shows the different perspectives to why a company would pursue gas flaring.

“What are the possible causes and consequences of higher oil prices on the overall economy?” *Federal Reserve Bank of San Francisco*. Last modified November 2007. <https://www.frbsf.org/education/publications/doctor-econ/2007/november/oil-prices-impact-economy/>.

This source explains the negative effects of higher oil prices and the effects for countries who rely on oil revenue.

“What Is Price Volatility?” *United States Energy Information Administration*. Accessed 20 July 2019. [https://www.eia.gov/natural-gas/weekly/archivenew_ngwu/2003/10_23/Volatility 10-22-03.htm](https://www.eia.gov/natural-gas/weekly/archivenew_ngwu/2003/10_23/Volatility%2010-22-03.htm).

Explains the definition and implications of price volatility specifically in the oil market and how countries and firms react to the change in oil prices.

“What Is a Sovereign Wealth Fund?.” *The Sovereign Wealth Fund Institute*. Accessed July 08. 2019. <https://www.swfinstitute.org/research/sovereign-wealth-fund>.

Gives the definition to what a sovereign wealth fund is and how it could be beneficial for countries if they are properly established and maintained regularly.

“What Is Social Benefit? Definition and Meaning.” *Business Dictionary*. Accessed 8 July 2019. <http://www.businessdictionary.com/definition/social-benefit.html>.

Explains the definition of social benefits and how it is relevant in economic policy.

Workman, Daniel “Crude Oil Exports by Country.” *World’s Top Exports*. Last modified 7 October 2019. <http://www.worldstop-exports.com/worlds-top-oil-exports-country/>.

Gives statistics on the amount of crude oil that is exported by country.

World Bank. *Iraq - The Unfulfilled Promise of Oil and Growth : Poverty, Inclusion and Welfare in Iraq Volume 3, 2007-2012*, Accessed 29 June 2019. <http://documents.worldbank.org/curated/en/678391468039024827/Policy-notes>.

Describes the possible growth of the oil sector in Iraq but also explains the several different obstacles which stand in the way from achieving this potential.

“World Bank’s Commitment to Iraq Reaches US\$4.7 Billion.” *World Bank*. Last modified 14 February 2018. <https://www.worldbank.org/en/news/press-release/2018/02/13/world-banks-commitment-to-iraq-reaches-us47-billion>.

This source specifically delves into the World Bank’s commitment with Iraq in order to target different sectors of their society.

Zhou, Laura. “China Pledges US\$23 Billion in Loans and Aid to Arab States.” *South China Morning Post*. Last modified 10 July 2018. <https://www.scmp.com/news/china/diplomacy-defence/article/2154642/china-pledges-us23-million-loans-and-aid-arab-states-it>.

This source provides insight into China’s goals in the Middle East as well as its recent diplomatic actions in the region.

Topic B

UN Sources

“About The Human Capital Project.” *World Bank*. Accessed 9 July 2019. <https://www.worldbank.org/en/publication/human-capital/brief/about-hcp>.

World Bank introduction about the Human Capital Project, a primary focus of the World Bank.

Anand, Sudhir and Victoria Fan. “WHO | The Health Workforce in India.” *Human Resources for Health Observer*. No. 16 (June 2016). http://www.who.int/hrh/resources/hwindia_health-obs16/en/.

A report on the distribution of the health workforce in India from a 2001 census. Contains essential insight into India’s human capital deficiency in the health sector, as well as the effects.

“Arguing for universal health coverage.” *WHO*. Accessed 30 October 2019. https://www.who.int/health_financing/UHC_ENvs_BD.PDF.

Offers both the challenges and positive effects to universal health care. While the source highlights the financial challenges countries may face when attempting to provide universal health coverage to all its citizens, it stresses the larger positive benefits that trump the financial challenges countries may face in the short run.

“Current Health Expenditure per Capita (Current US\$) | Data.” *World Bank*. Accessed 13 July 2019. <https://data.worldbank.org/indicator/SH.XPD.CHEX.PC.CD>.

World Bank data on healthcare expenditure per capita spent by the government of India.

“Dengue and Severe Dengue.” *WHO*. Accessed 7 July 2019. <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>.

A source on the epidemiology of dengue and its severest forms.

“Economic Growth.” *United Nations*. Accessed 30 October 2019. <https://www.un.org/sustainabledevelopment/economic-growth/>.

Establishes the United Nations definition as to what economic growth is. By giving the different indicators to how the United Nations constitutes and measures economic growth, it aids delegates to indicating different sectors of an economy and how these sectors interact and intertwine with each other.

“Goal 1: End Poverty in All Its Forms Everywhere.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/poverty/>.

Explains the ultimate objective to this specific goal and the specific targets within the objective the United Nations hopes to achieve complementary to ending poverty. This source also offers the different technical tools that are being used in order to measure the progress of this goal.

“Goal 3: Ensure Healthy Lives and Promote Well-Being for All at All Ages.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/health/>.

Specifically explains the end result the United Nations wants to achieve for this goal. This source shows different ways the United Nations has fostered partnerships in order to increase the progress of this goal. Similar to other goals, this source also includes specific indicators which track the progress of this goal as individually as one nation to as large as the United Nations as a whole.

“Goal 4: Quality Education.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/education>
This source explains how education is at the root of a country’s growth and the need for improvements in different parts of the world. In partnerships with other SDG goals, targets within goal stress both the fundamental and nuisance aspects that go into ensuring quality education to all individuals.

“Goal 5: Achieve Gender Equality and Empower All Women and Girls.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/gender-equality/>.

This source explains why gender equality and gender equity for all is important to sustainable development. It also explains its five goals and where the world currently stands in terms of gender equality.

“Goal 6: Ensure Access to Water and Sanitation for All.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/water-and-sanitation/>.

This source stresses the need for this goal to be achieved and gives statistics to how this goal is not being practiced in areas around the world. The specific targets that fall under the general umbrella of the objective, show the multiple aspects and complexities to promoting accessibility to water and sanitation for all individuals.

“Goal 7: Ensure Access to Affordable, Reliable, Sustainable and Modern Energy.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/energy/>.

As complementary to other SDGs, this source explains how the goal is at the intersection between being environmentally conscious as well as economically efficient. Due to the goal encompassing these two general themes, the targets within the objective are holistic in terms of maintaining sustainable

economic growth in countries that rely on the production of oil and the usage of energy.

“Goal 9: Build Resilient Infrastructure, Promote Sustainable Industrialization and Foster Innovation.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/infrastructure-industrialization>

This source explains how the goal establishes the foundation needed in order to improve the progress and implementation of other SDGs. Similar to other goals, some targets under the objective are geared through an environmental perspective in order to further promote the act of being environmentally conscious and sustainable.

“Goal 10: Reduce Inequality within and among Countries.” *United Nations*. Accessed 30 October 2019. <https://www.un.org/sustainabledevelopment/inequality/>.

At large, the source shows how the goal aims to tackle niche aspects of inequality that individual's face the most burden and through this progress will aim to achieve the overall objective of reducing inequality. The targets and indicators mentioned in the source show the complexity of this issue as well as the strategy the United Nations is currently taking in order to sustainably decrease the rate of inequality internationally.

“Goal 11: Make Cities Inclusive, Safe, Resilient and Sustainable.” *United Nations*. Accessed 23 July 2019. <https://www.un.org/sustainabledevelopment/cities/>.

In line with the environmental priorities of the International Bank, this goal holistically examines how governments could still promote innovation and growth under an environmental framework. More importantly, the source stresses the spillover benefits sustainable and inclusive cities have on society and its individuals.

“GNI per Capita, Atlas Method (Current US\$) | Data.” *World Bank*. Accessed 5 August 2019. <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD>.

A line graph of the global national income per capita spanning from 1962 to 2018.

“India: Bringing Clean Drinking Water to India's Villages.” *World Bank*. Last modified 24 May 2016. <https://projects-beta.worldbank.org/en/results/2016/05/24/bringing-clean-water-india-villages>.

A project by the World Bank on providing villages access to potable water.

“International Bank for Reconstruction and Development.” *World Bank*. Accessed 6 August 2019. <https://www.worldbank.org/en/who-we-are/ibrd>.

The homepage of the International Bank for Reconstruction and Development that introduces who they are and what they do.

“International Decade for Action ‘Water for Life’ 2005-2015. Focus Areas: Water Scarcity.” *United Nations*. Accessed 13 July 2019. <https://www.un.org/waterforlifedecade/scarcity.shtml>.

A UN source on the standards for water availability per capita, and more.

“People Practicing Open Defecation (% of Population) | Data.” *World Bank*. Accessed 8 July 2019. https://data.worldbank.org/indicator/SH.STA.ODFC.ZS?most_recent_value_desc=true.

A source displaying the percent of population in India that still practice open defecation.

“Physicians (per 1,000 People) | Data.” *World Bank*. Accessed 14 July 2019. <https://data.worldbank.org/indicator/SH.MED>.

PHYS.ZS

World Bank data on physician to population density.

“Products and Services.” *World Bank*. Accessed 13 July 2019. <https://projects-beta.worldbank.org/en/projects-operations/products-and-services>.

List of products and services offered by the World Bank.

“Projects : Innovation in Solar Power and Hybrid Technologies | The World Bank.” *World Bank*. Accessed 19 July 2019. <http://projects.worldbank.org/P160379?lang=en>.

A World Bank project partnership with India which advises different agencies in the government to see how India could better utilize renewable energy and energy storage.

“Projects : Madhya Pradesh Rural Connectivity Project | The World Bank.” *World Bank*. Accessed 18 July 2019. <http://projects.worldbank.org/P157054/?lang=en&tab=documents&subTab=projectDocuments>.

Explains the specific project the World Bank has partnered with India, to promote resilience and capacity building in order to better mitigate climate change and environmental disasters.

“Projects : Shimla Water Supply and Sewerage Service Delivery Reform Programmatic Development Policy Loan 1 | The World Bank.” *World Bank*. Accessed 19 July 2019. <http://projects.worldbank.org/P167246?lang=en>.

Explains a project between the World Bank and India in supporting the development both physically and institutionally to have a better sewage system regionally which will ensure clean water to citizens in the region.

“Soil-Transmitted Helminth Infections.” *WHO*. Accessed 7 July 2019. <https://www.who.int/news-room/fact-sheets/detail/soil-transmitted-helminth-infections>.

Information on the transmission, economic impact, and other details of soil-transmitted helminth infections

Subbaraman, Ramnath and Sharmila L Murthy. “WHO | The Right to Water in the Slums of Mumbai, India.” *WHO*. Last updated 6 October 2015. <http://www.who.int/bulletin/volumes/93/11/15-155473/en/>.

A source on the importance of government recognition of slums in order for citizens to gain access to water. Contains in-depth information on the costs and benefits of current and potential water use in India, as well as an informative diagnosis of the state and the role of India's slums in the country.

Sumriddetchkajorn, Kanitsorn, Kenji Shimazaki, Taichi Ono, Tesshu Kusaba, Kotaro Sato, and Naoyuki Kobayashi. “Universal Health Coverage and Primary Care, Thailand.” *Bulletin of the World Health Organization* 97, No. 6 (1 June 2019): 415–22. <https://www.who.int/bulletin/volumes/97/6/18-223693/en/>.

Specifically explains what is covered in the health system in Thailand given that the country offers Universal Health Care.

“Sustainable Development Goals.” *United Nations*. Accessed 29 October 2019. <https://sustainabledevelopment.un.org/?menu=1300>.

Gives a general explanation as to what the Sustainable Development Goals are and more specifically the different ways, the United Nations are measuring the progress of these goals.

“Tax Revenue (% of GDP) | Data.” *World Bank*. Accessed 5 August 2019. <https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS>.

Data source which specifically gives the tax revenue of India in terms of its percentage of the national GDP of that given year. This data source is one component of the overall World Bank Development Indicators which offer an array of different economic, financial and social statistics of member countries.

“Trachoma.” *World Health Organization*. Last updated 27 June 2019. <https://www.who.int/news-room/fact-sheets/detail/trachoma>.

Information on the transmission and economic impacts of trachoma.

“Vector-Borne Diseases.” *WHO*. Last modified 31 October 2017. <https://www.who.int/news-room/fact-sheets/detail/vector-borne-diseases>.

Explains the definition of vector-borne diseases. The source gives delegates an important distinction between the two types of diseases which could be at times intertwined incorrectly. The source also offers significant statistics as to the role vector-borne diseases play in the entire global health system.

“What We Do.” *World Bank*. Accessed 6 August 2019. <https://www.worldbank.org/en/what-we-do>.

Page on the World Bank website that highlights all the facets of their functioning.

“WHO | Density of Physicians (Total Number per 1000 Population, Latest Available Year).” *WHO*. Accessed 14 July 2019. http://www.who.int/gho/health_workforce/physicians_density_text/en/.

The World Health Organization standard of 1:1000 physician to population density.

“WHO | Epidemiology.” *WHO*. Accessed 7 July 2019. http://www.who.int/lymphatic_filariasis/epidemiology/en/.

A source on the epidemiology of lymphatic filariasis.

“WHO | Neglected Tropical Diseases.” *World Health Organization*. Accessed 11 September 2019. http://www.who.int/neglected_diseases/diseases/en/

An overview of Neglected Tropical Diseases and their impacts.

“WHO | Preventive Chemotherapy and Transmission Control (PCT).” *WHO*. Accessed 8 July 2019. https://www.who.int/neglected_diseases/preventive_chemotherapy/information/en/.

Preventive measures taken to combat NTDs, specifically Mass Drug Administrations.

“WHO | Water Related Diseases.” *WHO*. Accessed 7 July 2019. http://www.who.int/water_sanitation_health/diseases-risks/diseases/ascariasis/en/.

Information on the transmission and prevention of ascariasis, an NTD.

WHO. *Water sanitation and hygiene for accelerating and sustaining progress on neglected tropical diseases: A global strategy 2015-2020*. Accessed 14 September 2019. http://www.who.int/water_sanitation_health/publications/wash-and-ntd-strategy/en/.

A report by the WHO on their WASH initiative towards combating NTDs specifically focusing on the potential impacts in water sanitation and hygiene.

“WHO | What Is Lymphatic Filariasis.” *WHO*. Accessed 17 July 2019. http://www.who.int/lymphatic_filariasis/disease/en/.
A source on the economic burden of lymphatic filariasis.

“WHO | Why Are Some Tropical Diseases Called ‘Neglected?’.” *WHO*. Accessed 11 September 2019. <https://www.who.int/features/qa/58/en/>.

Explains the complexity to neglected tropical diseases and the common characteristics found within these different diseases that make them harder to identify as well as treat especially in developing countries.

World Bank. “The World Bank Annual Report 2018 (English).” Accessed 19 July 2019. <http://documents.worldbank.org/curated/en/630671538158537244/The-World-Bank-Annual-Report-2018>

Give holistic results as to what the World Bank has accomplished for 2018, and where there are rooms for improvement. The annual report also explains different initiatives the Bank wants to prioritize in the near future.

Non-UN Sources

Abraham, Dilip, Saravanakumar Puthupalayam Kaliappan, Judd L. Walson, and Sitara Swarna, Rao Ajjampur “Intervention Strategies to Reduce the Burden of Soil-Transmitted Helminths in India.” *The Indian Journal of Medical Research* 147, No. 6 (June 2018): 533–44. <https://www.ncbi.nlm.nih.gov/pubmed/20161896>.

Journal article on the global burden of helminths currently experienced in India.

Anne L. Wilson, RC Dhiman, U Kitron, TW Scott, H Van Den Berg, SW Lindsay. “Benefit of Insecticide-Treated Nets, Curtains and Screening on Vector Borne Diseases, Excluding Malaria: A Systematic Review and Meta-Analysis.” *PLOS Neglected Tropical Diseases* 8, No. 10 (9 October 2014): e3228. <https://www.ncbi.nlm.nih.gov/pubmed/25299481>.

Argues the positive benefits yielded from research to how insecticide-treated nets could be a positive tool to combat neglected tropical diseases.

“Ayurvedic Medicine: In Depth.” *National Center for Complementary and Integrative Health*. Last modified 1 August 2008. <https://nccih.nih.gov/health/ayurveda/introduction.htm>.

NIH analysis on the effectiveness of Ayurvedic medicine.

“Ayushman Bharat - National Health Protection Mission | National Portal of India.” *National Portal of India*. Accessed 5 August 2019. <https://www.india.gov.in/spotlight/ayushman-bharat-national-health-protection-mission>

The national health protection mission of the Indian government which gives information regarding the different health services and programs that are offered to different groups of citizens.

Bajpai, Vikas. “The Challenges Confronting Public Hospitals in India, Their Origins, and Possible Solutions.” Research article. *Advances in Public Health*, (2014). <https://www.hindawi.com/journals/aph/2014/898502/>.

An article on the statistics of lack of infrastructure in Primary Health Centres in India.

Balarajan, Yarlani, S Selvaraj, and S V Subramanian. “Health Care and Equity in India.” *Lancet* 377, No. 9764 (5 February 2011): 505–15. <https://www.ncbi.nlm.nih.gov/pubmed/21227492>.

A journal article on the inequity of healthcare in India.

Banton, Caroline. "Complementary Goods." *Investopedia*. Accessed 10 September 2019. <https://www.investopedia.com/terms/c/complement.asp>

This source explains the economic definition and significance of complementary goods. The relationship between these types of goods affect not only their individual markets but the markets of other goods as well.

Bethony, Jeffrey M., Rhea N. Cole, Xiaoti Guo, Shaden Kamhawi, Marshall W. Lightowlers, Alex Loukas, William Petri, Steven Reed, Jesus G. Valenzuela, and Peter J. Hotez, "Vaccines to Combat the Neglected Tropical Diseases." *Immunological Reviews* 239, No. 1 (January 2011): 237–70. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3438653/>.

Explains the different vaccinations that are available in specific regards to NTDs.

Bhatia, Mrigesh R, Julia Fox-Rushby, and Anne Mills. "Cost-Effectiveness of Malaria Control Interventions When Malaria Mortality Is Low: Insecticide-Treated Nets versus in-House Residual Spraying in India." *Social Science & Medicine* 59, No. 3 (1 August 2004): 525–39. <https://www.ncbi.nlm.nih.gov/pubmed/15144762>.

This source offers a counterargument to the high costs of treatment measures for masses diseases. Specifically, the source shows how these measures and treatments could be made economically efficient.

"Both in Rich and Poor Countries, Universal Health Care Brings Huge Benefits." *The Economist*. Last modified 26 April 2018. <https://www.economist.com/special-report/2018/04/26/both-in-rich-and-poor-countries-universal-health-care-brings-huge-benefits>.

Makes the larger argument to how universal healthcare is not a country-specific possibility. The source shows how universal health care is something that is plausible for all countries regardless of their development status and why all countries should attempt to implement universal health care.

Cashwell, Amber, A Tantri, A Schmidt, G Simon, N Mistry. "BRICS in the Response to Neglected Tropical Diseases." *Bulletin of the World Health Organization* 92, no. 6 (1 June 2014): 461–62. <https://www.ncbi.nlm.nih.gov/pubmed/24940024>.

Gives the response and specific policies the alliance BRICS has on neglected tropical diseases. As India is a member of this alliance, the policies of other larger nations affect the partnerships India could form to address this pressing issue.

"Changes in Open Defecation in Rural North India: 2014 – 2018." *Research Institute for Compassionate Economics*. Last modified 4 January 2019. <https://riceinstitute.org/research/changes-in-open-defecation-in-rural-north-india-2014-2018-2/>.

Another source discussing the effectiveness of Swatchh Bharat on the reduction in open defecation in rural north India.

Chappelow, Jim. "Economies of Scope Definition." *Investopedia*. Accessed 10 September 2019. <https://www.investopedia.com/terms/e/economiesofscope.asp>

Explains the definition of economies of scope and how it relates to the overall production process of specific goods. This form of an economic production is at times taken into great consideration by producers.

Chappelow, Jim. "Infrastructure Definition." *Investopedia*. Accessed 13 July 2019. <https://www.investopedia.com/terms/i/infrastructure.asp>.

Definition of infrastructure and what it consists of.

Chen, Yvonne Jie, Namrata Chindarkar, and Yun Xiao. "Effect of Reliable Electricity on Health Facilities, Health Information,

and Child and Maternal Health Services Utilization: Evidence from Rural Gujarat, India.” *Journal of Health, Population, and Nutrition* 38, (19 February 2019). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6381650/>.

Effect of unreliable electricity on hospitals. Includes optimal combinations of backup power for hospitals.

Chokshi, M., B. Patil, R. Khanna, S. B. Neogi, J. Sharma, V. K. Paul, S. Zodpey. “Health Systems in India.” *Journal of Perinatology* 36, no. Suppl 3 (December 2016): S9–12. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5144115/>.

An article on the layout of the healthcare system in India. Perfect for familiarizing oneself with the vast complexity of India's healthcare system.

Claudia Campos, María, Milena Beltrán, Nancy Fuentes, and Gerardo Moreno. “Helminth Eggs as Parasitic Indicators of Fecal Contamination in Agricultural Irrigation Water, Biosolids, Soils and Pastures.” *Biomedica: Revista Del Instituto Nacional De Salud* 38, No. 1 (15 March 2018): 42–53. <https://www.ncbi.nlm.nih.gov/pubmed/29668133>.

A study on the contamination of helminth eggs present in irrigation water as an indicator of improper water treatment.

“Cleaning Water without the Grid.” *MIT News*. Accessed 13 July 2019. <http://news.mit.edu/2016/cleaning-water-without-grid-0216>.

A news report on MIT students developing solar-powered desalination systems for use in rural India.

“Culture and the Labour Market Keep India’s Women at Home.” *The Economist*. Last modified 5 July 2018. <https://www.economist.com/briefing/2018/07/05/culture-and-the-labour-market-keep-indias-women-at-home>.

Analysis by The Economist on the factors keeping India's women from entering the workforce.

Dandabathula, Giribabu, Pankaj Bhardwaj, Mithilesh Burra, Peddineni V. V. Prasada Rao, and Srinivasa S. Rao. “Impact Assessment of India’s Swachh Bharat Mission – Clean India Campaign on Acute Diarrheal Disease Outbreaks: Yes, There Is a Positive Change.” *Journal of Family Medicine and Primary Care* 8, no. 3 (March 2019): 1202–1208. <https://www.ncbi.nlm.nih.gov/pubmed/31041274>.

A journal article assessing the effectiveness of the Swachh Bharat Mission.

“Deploying Drugs for New Purposes Holds Great Promise - Old Drugs in New Bottles.” *The Economist*. Last modified 28 February 2019. <https://www.economist.com/leaders/2019/02/28/deploying-drugs-for-new-purposes-holds-great-promise>.

An article by The Economist on the importance of drug repurposing.

Fitzpatrick, Christopher, Fiona M. Fleming, Matthew Madin-Warburton, Timm Schneider, Filip Meheus, Kingsley Asiedu, Anthony W. Solomon, Antonio Montresor, Gautam Biswas. “Benchmarking the Cost per Person of Mass Treatment for Selected Neglected Tropical Diseases: An Approach Based on Literature Review and Meta-Regression with Web-Based Software Application.” *PLOS Neglected Tropical Diseases* 10, No. 12 (5 December 2016): e0005037. <https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0005037>.

This source offers an approach that countries could use in order to combat neglected tropical diseases. The source also measures the cost a country may have to spend per person to treat that individual with that specific disease.

Franco, Andrea, Marjan Shaker, Dikolela Kalubi, and Silvia Hostettler. “A Review of Sustainable Energy Access and Technologies for Healthcare Facilities in the Global South.” *Sustainable Energy Technologies and Assessments* 22, (1 August 2017):

92–105. <https://www.sciencedirect.com/science/article/pii/S2213138817301376>.

Another journal article analyzing possible alternative to diesel generators to provide backup power for health facilities.

Gedge, Lukyn M., Alison A. Bettis, Mark H. Bradley, T. Déirdre Hollingsworth, Hugo C. Turner. “Economic Evaluations of Lymphatic Filariasis Interventions: A Systematic Review and Research Needs.” *Parasites & Vectors* 11 (1 February 2018). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5793442/>.

This source explains the economic impacts of interventions of Lymphatic Filariasis. Through this research, it shows the necessary tools and mechanisms which need to be in place in order to properly intervene an infested area.

Gupta, Monica Das. “Public Health In India: An Overview.” *Social Science Research Network*. Last modified 5 January 2006. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=873895##.

A paper on the history of public healthcare policy in India.

Hammer, Jeffrey, Yamini Aiyar, and Salimah Samji. “Understanding Government Failure in Public Health Services.” *Economic and Political Weekly* 42, No. 40 (2007): 4049–57. https://www.jstor.org/stable/40276648?seq=1#metadata_info_tab_contents.

Primarily explains different ways forms of governments could fail in administering public health services. This source also identifies different factors which may cause for this administration of health services to be subpar.

Hariharan, Dhvani, Manoja Kumar Das, Donald S. Shepard, and Narendra Kumar Arora. “Economic Burden of Dengue Illness in India from 2013 to 2016: A Systematic Analysis.” *International Journal of Infectious Diseases* 0, no. 0 (11 January 2019). [https://www.ijidonline.com/article/S1201-9712\(19\)30021-9/abstract](https://www.ijidonline.com/article/S1201-9712(19)30021-9/abstract).

This article analyzes the economic burden of Dengue fever in India.

Hopkins, Adrian. “Treating Neglected Tropical Diseases.” *Community Eye Health* 26, No. 82 (2013): 26–27. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3756644/>.

Explained the different treatments that could be used in order to treat neglected tropical diseases. The source also highlights the different factors which need to be considered before treatment could begin.

Hotez, Peter J. and Ashish Damania. “India’s Neglected Tropical Diseases.” *PLoS Neglected Tropical Diseases* 12, No. 3 (22 March 2018). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5863936/>.

Journal article on the 11 most common NTDs in India.

Hotez, Peter J., Ashish Damania, Aparna Barua, and Jeffrey Stanaway. “The First ‘London Declaration’: The Commonwealth and Its Neglected Tropical Diseases.” *PLOS Neglected Tropical Diseases* 11, no. 4 (27 April 2017): e0005321. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5407556/>.

As a group of nations once under British colonial rule, this source explains how these countries as a group attempt to eliminate and eradicate neglected tropical diseases.

Hotez, Peter J. “Ten Global ‘Hotspots’ for the Neglected Tropical Diseases.” *PLoS Neglected Tropical Diseases* 8, no. 5 (29 May 2014). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4038631/>.

A research paper that discusses neglected tropical diseases and the regions in which they are most prevalent.

Hugo C. Turner, J Toor, TD Hollingsworth, RM Anderson. “Economic Evaluations of Mass Drug Administration: The Importance of Economies of Scale and Scope.” *Clinical Infectious Diseases* 66, No. 8 (3 April 2018): 1298–1303. <https://www.ncbi.nlm.nih.gov/pubmed/29126255>.

This source offers an economic perspective to how mass drug administration affect a national economy.

“India Infrastructure Analysis.” *India Brand Equity Foundation*. Accessed 16 September 2019. <https://www.ibef.org/industry/infrastructure-presentation>.

This report from the India Brand Equity Foundation outlines infrastructure needs in India.

“India - OECD.” *Organization for Economic Co-Operation and Development*. Accessed 19 July 2019. <https://www.oecd.org/india/>.
The Organization for Economic Co-Operation and Development homepage for India that includes reports and data.

“India Pharma 2020: Propelling access and acceptance, realising true potential.” *McKinsey & Company*. Accessed 9 July 2019. https://www.mckinsey.com/~media/mckinsey/dotcom/client_service/Pharma%20and%20Medical%20Products/P.MP%20NEW/PDFs/778886_India_Pharma_2020_Propelling_Access_and_Acceptance_Realising_True_Potential.ashx.

McKinsey analysis on where the Indian pharmaceutical market is heading.

“Indian Drugmakers Need a New Prescription.” *The Economist*. Last modified 22 March 2018. <https://www.economist.com/business/2018/03/22/indian-drugmakers-need-a-new-prescription>

This source explains the dangers which may come to pharmaceutical companies in India as a result of new patent licenses that are being given to companies overseas. As an industry in India that relies on the reproduction of medications at a lower cost, this source argues and stresses that reforms need to be made in order to lessen the burden of these changes.

“India’s Government Launches a Vast Health-Insurance Scheme.” *The Economist*. Last modified 27 September 2018. <https://www.economist.com/asia/2018/09/27/indias-government-launches-a-vast-health-insurance-scheme>.

A source on the new health insurance policy that Modi has implemented, original analysis on its motivations, successes, and challenges. A helpful preview of the progress India still has to make on the issue.

“India Statistics.” *CIA World Factbook*. Accessed 16 September 2019. <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>.

Database which offers basics statistics regarding India’s country as a whole.

“Introducing Health Care Economics | Boundless Economics.” *Lumen Learning*. Accessed 10 September 2019. <https://courses.lumenlearning.com/boundless-economics/chapter/introducing-health-care-economics/>.

Discusses a new form of economics which studies and analyzes models and theories through the lens of health care. The source argues how by studying economics with this specific framework in mind, it aims to help create better health policy solutions.

Jambulingam, P., K. Gunasekaran, S. Sahu, T. Vijayakumar. “Insecticide Treated Mosquito Nets for Malaria Control in India-

Experience from a Tribal Area on Operational Feasibility and Uptake.” *Memórias Do Instituto Oswaldo Cruz* 103, No. 2 (March 2008): 165–71. <https://www.ncbi.nlm.nih.gov/pubmed/18392548>.

A case study to how mass diseases have been treated in India. This update also shows the places where improvements are needed; these improvements reflect on the larger issues at hand for neglected tropical diseases in India.

Karve, Ameya. “\$42 Billion Wiped Off Indian Stocks as Doubts on Tax Linger.” *Bloomberg*. Last modified 9 July 2019. <https://www.bloomberg.com/news/articles/2019-07-09/-30-billion-wiped-off-india-stocks-as-tax-clarity-eludes-market>.

An article on the recently imposed tax on wealthy Indians that caused a trope in market value on several companies.

Kenton, Will. “Reading Into Human Capital.” *Investopedia*. Accessed 9 July 2019. <https://www.investopedia.com/terms/h/humancapital.asp>.

Definition of human capital and its contribution to growth.

Kolaczinski, Jan H., Emily Robinson, and Timothy P. Finn. “The Cost of Antibiotic Mass Drug Administration for Trachoma Control in a Remote Area of South Sudan.” *PLOS Neglected Tropical Diseases* 5, No. 10 (11 October 2011): e1362. <https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0001362>.

A specific case study of the financial and economic journey of how Sudan financed the mass drug administration of antibiotic to treat Trachoma. The location used in this case study offers insight into how diseases are treated in both urban and rural areas.

Mohammed Wazed, Saeed, Ben Hughes, Dominic O’Connor, and John Kaiser Calautit. “A Review of Sustainable Solar Irrigation Systems for Sub-Saharan Africa.” *Renewable and Sustainable Energy Reviews* 81, (1 January 2018): 1206–25. <https://ideas.repec.org/a/eee/rensus/v81y2018ip1p1206-1225.html>.

Analysis on the effectiveness of solar-powered drip irrigation systems employed in sub-Saharan Africa.

M. Pandey, M., Subha Rastogi, and A. K. S. Rawat. “Indian Traditional Ayurvedic System of Medicine and Nutritional Supplementation.” *Evidence-Based Complementary and Alternative Medicine* 2013, (2013). <https://www.hindawi.com/journals/ecam/2013/376327/>.

An article on the popularity of Indian traditional Ayurvedic medicine.

Nair, Sunita R. “Relevance of Health Economics to the Indian Healthcare System: A Perspective.” *Perspectives in Clinical Research* 6, no. 4 (2015): 225–26. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4640018/>.

A paper discussing the economics of the Indian healthcare system. An absolutely crucial source to improving public health outcomes, reducing drug prices, and guaranteeing feasible returns on investments.

Narayan, Pushpa. “Government Hospitals Run out of Essential Medicines.” *The Times of India*. Last modified 25 April 2019. <https://timesofindia.indiatimes.com/city/madurai/government-hospitals-run-out-of-essential-medicines/article-show/69049894.cms>.

An article from The Times of India on medical shortages in public hospitals.

“Neglected Tropical Diseases | NIH: National Institute of Allergy and Infectious Diseases.” *National Institute of Allergy and Infectious Diseases*. Accessed 29 July 2019. <https://www.niaid.nih.gov/research/neglected-tropical-diseases>.

Establishes the definition of what a neglected tropical disease is, and other significant information such as common symptoms and geographical locations where these diseases are most commonly seen.

“Pharma Industry in India: Pharma Sector Overview, Market Size, Analysis.” *India Brand Equity Foundation*. Accessed 19 July 2019. <https://www.ibef.org/industry/pharmaceutical-india.aspx>.

Homepage of the India Brand Equity foundation that provides several sources on their pharma sector.

Phillips, Kaye, JC Kohler, P Pennefather, H Thorsteinsdottir, and J Wong. “Canada’s Neglected Tropical Disease Research Network: Who’s in the Core—Who’s on the Periphery?.” *PLOS Neglected Tropical Diseases* 7, no. 12 (5 December 2013): e2568. <https://www.ncbi.nlm.nih.gov/pubmed/24340113>.

Specifically analyzes how Canada has created its research and information capacity on neglected tropical diseases. The source also shows through this research the different ways Canada could improve in order to increase its information capacity and research network.

PricewaterhouseCoopers. *India Pharma, Inc.: Gearing up for the next level of growth*. Accessed 9 July 2019. <https://www.pwc.in/assets/pdfs/pharma/pharma-summit-report-31-10-12.pdf>.

PwC India analysis on the potential growth in the pharmaceutical industry in India.

Pulkki-Brännström, Anni-Maria, C Wolff, N Brannstrom, J Skordis-Worall. “Cost and Cost Effectiveness of Long-Lasting Insecticide-Treated Bed Nets - a Model-Based Analysis.” *Cost Effectiveness and Resource Allocation : C/E* 10 (4 April 2012): 5. <https://www.ncbi.nlm.nih.gov/pubmed/22475679>.

This source specifically analyzes the economic costs and benefits of purchasing different preventative measures for mass diseases. Furthermore, the source shows the possible hesitancy from some developing countries to treat mass diseases within a short period of time.

Ramji, Aditya, Sasmita Patnaik, Sunil Mani, and Hem H Dholakia. “Powering Primary Healthcare through Solar in India: Lessons from Chhattisgarh.” *Oxfam India*. Last modified August 2017. <https://www.ceew.in/publications/powering-primary-healthcare-through-solar-india>.

Case study of implementing solar energy in public hospitals in Chhattisgarh.

Rashid, Mohammad and Debapratim Pandit. “Determining the Provision of Wastewater Management Infrastructure in Rural India from the Local Communities’ Perspectives.” *Water Science and Technology* 79, No. 3 (1 February 2019): 489–500. <https://iwaponline.com/wst/article/79/3/489/65997/Determining-the-provision-of-wastewater-management>.

Statistics on the provision of wastewater treatment in rural India and the community’s perspective.

Ravishankar, B and VJ Shukla. “Indian Systems of Medicine: A Brief Profile.” *African Journal of Traditional, Complementary and Alternative Medicines* 4, No. 3 (16 February 2007): 319–37. <https://www.ncbi.nlm.nih.gov/pubmed/20161896>

An article on the layout of Ayurvedic medicine.

Sengupta, Amit and Samiran Nundy. “The Private Health Sector in India.” *BMJ : British Medical Journal* 331. No. 7526 (19 November 2005): 1157–58. <https://www.bmj.com/content/331/7526/1157>.

A source on the domination of the private health sector in India.

Sen, Sandip. "If 80% Water Consumption in India Is for Agriculture, Why Is It Unregulated and Inefficient?." *Observer Research Center*. Last updated 3 May 2018. <https://www.orfonline.org/expert-speak/if-80-water-consumption-in-india-is-for-agriculture-why-is-it-unregulated-and-inefficient/>

An analysis on the chronic water shortage problem in India.

Suneja, Kirtika. "Trade War Impact: Indian Exports Rise More to China than to US, Says SBI." *The Economic Times*. Last modified 29 July 2019. <https://economictimes.indiatimes.com/news/economy/foreign-trade/trade-war-impact-indian-exports-rise-more-to-china-than-to-us-says-sbi/articleshow/70438112.cms?from=mdr>.

An article that discusses the State Bank of India's suggestion to reinforce the Export Refinance Scheme .

Suri, Manveena. "India Wants to Make Medical Tourism a \$9 Billion Industry by 2020." *CNN*. Last modified 15 February 2019. <https://www.cnn.com/2019/02/13/health/india-medical-tourism-industry-intl/index.html>.

This current event shows one strategy India is taking in order to increase its revenue specifically within its healthcare system. Harnessing the attractive qualities of their health care system they are aware of, the country hopes to be able to build an industry through offering their low-cost health services to international tourists.

"Swachh Bharat Mission - Gramin, Ministry of Drinking Water and Sanitation." Accessed 13 July 2019. <http://swachhbharat-mission.gov.in/sbmcms/index.htm>.

Information and statistics on the Swachh Bharat Mission carried out by the government of India.

Tangcharoensathien, Viroj, W Witthayapipopsakul, W Panichkriankrai, W Patcharanarumol, and A Mills. "Health Systems Development in Thailand: A Solid Platform for Successful Implementation of Universal Health Coverage." *The Lancet* 391, No. 10126 (24 March 2018): 1205–23. <https://www.ncbi.nlm.nih.gov/pubmed/29397200>.

A specific case study to the health care system in Thailand. This case studies offers insights to different techniques India could implement in order for the national health care system to be more beneficial to its citizens.

Tuovila, Alicia. "Marginal Cost Of Production Definition." *Investopedia*. Accessed 10 September 2019. <https://www.investopedia.com/terms/m/marginalcostofproduction.asp>

Explains the definition of what a marginal cost is and how it specifically pertains to the production process of universally all goods.

"Universal Health Care, Worldwide, Is within Reach." *The Economist*. 26 April 2018. <https://www.economist.com/leaders/2018/04/26/universal-health-care-worldwide-is-within-reach>.

Analysis by The Economist on how universal healthcare is possible even in developing countries.

Walton-Roberts, Margaret, Vivien Runnels, S. Irudaya Rajan, Atul Sood, Sreelekha Nair, Philomina Thomas, Corinne Packer, Mackenzie A, Tomblin Murphy G. Labonte R, Bourgeault IL. "Causes, Consequences, and Policy Responses to the Migration of Health Workers: Key Findings from India." *Human Resources for Health* 15, No. 1 (5 April 2017): 28. <https://www.ncbi.nlm.nih.gov/pubmed/28381289>.

A journal article on the crisis of healthcare worker migration from rural India.

Webster, Joanne P, David H. Molyneux, Peter J. Hotex, Alan Fenwick. "The Contribution of Mass Drug Administration to

Global Health: Past, Present and Future.” *Philosophical Transactions of the Royal Society B: Biological Sciences* 369, No. 1645 (19 June 2014). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4024227/>.

Offers the benefits to mass drug administration in different countries. By highlighting different points in time when this technique has been used the source shows both the positive reasons behind this as well as the challenges which follows mass drug administration.

“Why India Needs Women to Work.” *The Economist*. Last modified 5 July 2018. <https://www.economist.com/leaders/2018/07/05/why-india-needs-women-to-work>.

Analysis by The Economist on the economic necessity of the inclusion of India’s women in the workforce.

Y, Cha, T. Erez, J. Reynolds, D. Kumar, J. Ross, G. Koytiger, R. Kusko, B. Zeskind, S. Risso, E. Kagan, S. Papapetropoulos, I. Grossman, D. Laifenfeld. “Drug Repurposing from the Perspective of Pharmaceutical Companies: Drug Repurposing in Pharmaceutical Companies.” *British Journal of Pharmacology* 175, No. 2 (January 2018): 175. <https://www.ncbi.nlm.nih.gov/pubmed/28369768>.

A journal article on the incentives and disincentives of pharmaceutical companies on drug repurposing.

Appendix

CDC-Centers for Disease Control and Prevention. “CDC - Lymphatic Filariasis.” Accessed 30 October 2019. <https://www.cdc.gov/parasites/lymphaticfilariasis/index.html>.

This source explains the non communicable disease Lymphatic Filariasis. The source gives common symptoms of disease and whom are most targeted from contracting the disease.

“Environmental and Social Framework (ESF).” *World Bank*. Accessed 14 September 2019. <https://projects-beta.worldbank.org/en/projects-operations/environmental-and-social-framework>.

This source explains the Environment and Social Framework which can be seen in all loan projects of the World Bank. The source goes into further detail to why this framework was created and how this overall framework strives to make projects more sustainable both for the countries and the environment.

“How Will the Belt and Road Initiative Advance China’s Interests?.” *ChinaPower Project*. Last modified 8 May 2017. <https://chinapower.csis.org/china-belt-and-road-initiative/>.

This source analyzes the possible political benefits to China’s Belt and Road Initiative. More specifically, the article identifies China’s possible interests the role the Belt and Road Initiative could further these interests outside of the Eastern Hemisphere.

Kagan, Julia. “Capitation Payments.” *Investopedia*. Accessed 13 September 2019. <https://www.investopedia.com/terms/c/capitation-payments.asp>.

Explains the definition of what capitation payments are and the significant role it has in the general healthcare industry. This source also explains how the significant role of capitation payments could be misused in national health care systems.

Kenton, Will. “Organisation for Economic Co-Operation and Development (OECD).” *Investopedia*. Accessed 14 September 2019. <https://www.investopedia.com/terms/o/oecd.asp>.

This source gives an explanation to organization OECD. In addition, this source explains the mandate, responsibility of the organization and its role in the overall global economy.

Pandve, Harshal Tukaram and Tukaram K Pandve. "Primary Healthcare System in India: Evolution and Challenges." *International Journal of Health System & Disaster Management* 1, No. 3 (2013): 125-128. <http://www.ijhsdm.org/article.asp?issn=2347-9019;year=2013;volume=1;issue=3;spage=125;epage=128;aulast=Pandve>.

Gives a general overview to the primary healthcare system in India. By giving the history of the system and the different changes it has undergone throughout time, the article shows how the system has succeeded but as well failed the citizens in different ways.

Roser, Max and Hannah Ritchie, "Burden of Disease." *Our World in Data*. Last modified 25 January 2016. <https://ourworldindata.org/burden-of-disease>.

This source helps explains what the lasting impacts of mass diseases in specifically developing countries. The effects that are described in this source are both seen within the national economy as well as society.

"WHO | What Is 'Fiscal Space' and Why Does It Matter?." *WHO*. Accessed 14 September 2019. http://www.who.int/health_financing/topics/fiscal-space/why-it-matter/en/.

This source explains the significance of fiscal space within the national federal budget of a country. By explaining the definition of this term, the source shows possible avenues to how sustainable fiscal space could be used in order to increase the welfare of citizens.

The National High School Model United Nations Conference (NHSMUN) is a project of IMUNA, a non-profit organization formally associated with the United Nations Department of Global Communications (UNDGC). IMUNA is dedicated to promoting global issues education through simulation.

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