



United Nations Development Program (UNDP)

MUNUC 33

ONLINE



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CHAIR LETTER

Dear Delegates,

I would like to warmly welcome all of you to the United Nations Development Program at MUNUC 33 Online. My name is Joshua Kim, and I will be serving as your committee chair for this year's conference. I cannot wait to meet all of you and work with you during MUNUC.

I am currently a second-year undergraduate student at the University of Chicago, majoring in Computer Science. Last year, I served as a Moderator for the UN Asia-Europe Meeting for MUNUC 32. I am interested in international human rights and human connectivity, especially with discussing peoples' actions. On campus — apart from MUNUC — I am a member of the Chicago Debate Society and I work as a member of the University of Chicago IT. I also volunteer in the Chicago Hyde Park Model United Nations Conference (CHPMUNC), where I introduce Model UN to high school students, helping them prepare for the MUNUC conference.

I hope all of you are as excited as I am about the topics for our committee: establishment of improved road infrastructure and providing equal education for low-income students. As delegates, you will take these two issues that you may already know quite a lot about but explore them more in depth. With the topic of establishment of improved road infrastructures, you will work towards discussing ways to improve the quality of roads, with the end goal of connecting people and cities with one another. Providing equal education for low-income students will have you gain more of an understanding of learning disadvantages for people in poverty and how to address those issues, providing equal educational opportunities to everyone around the globe.

Over the next few months, you will be learning about these topics and hopefully discovering many new and interesting things about the world that you were not previously aware of. I hope you enjoy this process, and please reach out to me if you have any questions about MUNUC, the University of Chicago, or even something computer science related.

I look forward to seeing you all in February for MUNUC 33 Online!

Sincerely,

Joshua Kim

COMMITTEE HISTORY

The first General Assembly of the United Nations Development Program convened in 1966, with Paul G. Hoffman being the first Administrator for the UNDP.¹ However, the roots of the UNDP stem back to 1945, in the UN Charter, which calls for “higher standards of living, full employment and conditions of economic and social progress and development.”² Then, in 1949, six different UN agencies grouped together to become the Expanded Programme of Technical Assistance (EPTA) with the goal of helping support development.³ About a decade later in 1959, the United Nations Special Fund began operations, supporting development projects around the globe — for instance, with a land and water resources survey in Brazil.⁴ The EPTA and the Special Fund both shared development knowledge through fellowships and technical assistance, which eventually became the United Nations Development Program in 1966.⁵

One of the earliest projects that the UNDP undertook was working with the United Nations Food and Agriculture Organization, along with 42 countries, to combat desert locusts, which were ruining crops and leading to a potential famine.⁶ After winning the battle in 1970, the campaign was used as a base model for future projects.⁷ In 1967, the UNDP partnered with the newly independent Republic of Singapore, offering funding and technical expertise in areas like education, industrialization, job creation, and urban planning.⁸

After numerous other regional and global projects, the UNDP initiated the Millennium Development Goals in 2000 — a set of eight goals that ranged from eradicating extreme poverty and hunger to providing universal primary education.⁹ In 2015, after the success of the Millennium Development Goals, the UNDP approved the new Sustainable Development Goals, which aimed to balance

¹ “Past Administrators.” *UNDP*, www.undp.org/content/undp/en/home/about-us/our-leadership/past-administrators.html.

² “ON ITS 50TH ANNIVERSARY, UNDP IS LOOKING TOWARDS THE FUTURE.” *UNDP 50th Anniversary*, www.50.undp.org/en/.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

economic growth, social growth, and environmental protection in promoting sustainable development.¹⁰ The modern-day UNDP includes 170 countries and territories, 36 members on the executive board, of which there are 4 Vice Presidents and 1 President.¹¹

¹⁰ Ibid.

¹¹ "Our Executive Board." *UNDP*, www.undp.org/content/undp/en/home/about-us/our-executive-board.html.

TOPIC A: ESTABLISHMENT OF IMPROVED ROAD INFRASTRUCTURE

Statement of the Problem

Introduction to the Problem

As the world continues to develop, roads are slowly becoming a staple of a developed nation. From helping exchange goods and services to connecting cities and people, roads are a key component to any nation's development. However, many roads are not being developed efficiently or effectively, causing numerous problems for everyone who uses the roads. Ranging from potholes to increased congestion, roads are serving as a bigger issue as more and more countries become developed. One key reason for these issues is the rising cost of infrastructure — these costs arise from accounting for potential issues due to climate change, creating roads that are capable of withstanding all types of weather, and other developmental goals to ensure the safety of people who use those roads.¹² This leads to an estimated global cost of around \$3.2 trillion a year, for 18 years, in order to solve all of the potential infrastructure issues that each nation is currently struggling with.¹³ As countries develop, the construction of roads is a quick way to assist those in poverty and increase the amount of productivity and food security for a rural area.¹⁴ However, in the rush to create roads, the result is often inefficient or proves to be a safety hazard.¹⁵ As a leading international organization on a nation's development, the United Nations Development Programme is responsible for ensuring that each nation has the components necessary to ensure a future as a developed nation. Thus, the United Nations Development Programme also works towards improving a nation's road infrastructure, which is a vital aspect of economic stability and development.

Road infrastructure is a smaller part of a larger urban element, referred to as "**Transportation Infrastructure**." As an aspect of transportation infrastructure, roads are an important part of

¹² Hexter, Jimmy, and Jan Mischke. "Fixing the World's Infrastructure Problems." Harvard Business Review, April 11, 2013. <https://hbr.org/2013/04/fixing-the-worlds-infrastructure>.

¹³ Ibid.

¹⁴ "Creating Pro-Poor Transport Connecting the Dots: Transport, Growth, and Poverty Reduction." World Bank. Accessed May 23, 2020. <https://www.worldbank.org/en/topic/transport/brief/connections-note-24>.

¹⁵ Wang, Luqi, Xiaolong Xue, Zebin Zhao, and Zeyu Wang. "The Impacts of Transportation Infrastructure on Sustainable Development: Emerging Trends and Challenges." International journal of environmental research and public health. MDPI, June 5, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025045/>.

transporting materials and people during **urban agglomeration** and **diffusion**. This leads to transportation infrastructure in general having a large influence on politics, economy, society, science, technology development, environmental protection, public health, and national security.¹⁶ Road infrastructure, like the rest of transportation infrastructure, has high risk, high investment, complex organization, low income, geographic network, and spatial externality that must be accounted for.¹⁷ However, due to the simple benefit of having roads constructed in a nation, they are frequently constructed and maintained poorly, leading to a variety of present and future issues. For instance, in Switzerland, a country at a high income level, the road network does not attain the quality rating that is expected — matching with lower-income countries like India and Indonesia that have poor infrastructure.¹⁸

Current Situation

Inadequate General Foundation

Generally speaking, an adequate road is one that accounts for external factors, ranging from climate change to different weather patterns, is maintained regularly, and is capable of being utilized with minimal risk to anyone using the road. Conversely, roads that are prepared prematurely and planned irrationally lead to issues such as ecological destruction, increased accidents on the road, climate change, and a lower overall transport efficiency rate.¹⁹ These problems remain years after the construction of the road unless they are properly handled. The solutions include prioritizing projects, which will greatly assist in saving monetary cost, increasing the speed of permits and land acquisition

¹⁶ Ibid.

¹⁷ Wang, Luqi, Xiaolong Xue, Zebin Zhao, and Zeyu Wang. "The Impacts of Transportation Infrastructure on Sustainable Development: Emerging Trends and Challenges." International journal of environmental research and public health. MDPI, June 5, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025045/>.

¹⁸ Woetzel, Jonathan, et al. McKinsey Global Institute, 2016, *Bridging Global Infrastructure Gaps*, www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/Bridging-Global-Infrastructure-Gaps-Full-report-June-2016.pdf.

¹⁹ Wang, Luqi, Xiaolong Xue, Zebin Zhao, and Zeyu Wang. "The Impacts of Transportation Infrastructure on Sustainable Development: Emerging Trends and Challenges." International journal of environmental research and public health. MDPI, June 5, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025045/>.

to accelerate the completion of these projects, and finally, improving the roads and general infrastructure that exist already.²⁰

Additionally, the creation of a road is capable of enhancing **food security** as well as **agricultural productivity**. By gaining better access to roads, farmers are able to reduce the time it takes to travel to agricultural markets, leading to farmers adopting modern farming techniques and focusing on cash crops, which would in turn increase the market participation.²¹ Not only does road access directly impact the farmers in rural areas, it greatly benefits their families. It improves financial wellbeing, increases school enrollment, and allows for increased access to hospitals that were previously inaccessible.²²

In the urban setting, the creation of roads greatly benefits low-income residents. With the creation of roads, public transportation becomes a possibility, which greatly assists urban poor with commuting, eliminates time spent walking to work, and expands the job search radius.²³ This decreases the level of poverty in the urban region while simultaneously increasing its production rate, thereby leading the nation towards development.

However, in poorer nations, developed roads are a financial issue. An increase and improvement in road infrastructure allow for both an increase in the employment as well as the access to markets. But poorer countries are unable to gain access to developed roads or infrastructures, and in the cases where infrastructure was obtainable, these nations had to pay more for those services.²⁴ This financial burden further separates the nations that are considered developed and those that are considered less developed, as developed nations often provide infrastructure services to the less developed nations.

²⁰ Hexter, Jimmy, and Jan Mischke. "Fixing the World's Infrastructure Problems." Harvard Business Review, April 11, 2013. <https://hbr.org/2013/04/fixing-the-worlds-infrastructure>.

²¹ "Creating Pro-Poor Transport Connecting the Dots: Transport, Growth, and Poverty Reduction." World Bank. Accessed May 23, 2020. <https://www.worldbank.org/en/topic/transport/brief/connections-note-24>

²² Ibid.

²³ Ibid.

²⁴ "IMPORTANCE OF INFRASTRUCTURE TO DEVELOPMENT, POVERTY REDUCTION STRESSED AT THEMATIC SESSION OF BRUSSELS CONFERENCE | Meetings Coverage and Press Releases." United Nations. United Nations. Accessed May 23, 2020. <https://www.un.org/press/en/2001/dev2328.doc.htm>.

Furthermore, as time progressed and the needs of the population began to increase, road infrastructures began to deteriorate due to a lack of maintenance. This is especially problematic for nations where the urban population is expected to double, as this leads to increased traffic and an increase in the potential accidents that can arise on a poorly maintained road.²⁵ Failing to adequately expand and improve the roads could also lead to poor access to neighboring countries. Without roads, it would limit the areas of production with the areas of consumption.²⁶ This further separates the developed nations from the less developed nations. However, the construction of roads has been proven to benefit the economies of landlocked nations, as they generated a large amount of transit traffic, increasing employment opportunities from tourism and service industries.²⁷

Overall, the development of sustainable roads is a great asset to a nation's development. Roads assist with lowering poverty, increasing production rate, and strengthening connections between countries — all factors that bolster a country's development and economic status.

Prone to Health Concerns

Road traffic injuries are a major public health issue, regardless of the state of the road. As more nations begin to implement a road system within their borders, it is necessary to understand the causes of road accidents and how to prevent them in the future.

According to studies, while road traffic injuries are relevant to high, middle, and low-income nations, the highest rates are in low and middle-income nations.²⁸ A vast majority of those injured are road users who are not in cars, including pedestrians, cyclists, and people using motorized two-wheelers.²⁹ Oftentimes, this is caused by a lack of attention given towards the more vulnerable road users, as many safety regulations, such as seat belts and vehicular standards, are directly related to ensuring the protection of car or vehicular occupants.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

²⁸ "Global Status Report on Road Safety." World Health Organization, n.d.

https://www.who.int/violence_injury_prevention/road_safety_status/report/state_of_road_safety_en.pdf?ua=1.

²⁹ Ibid.

Consequently, poor road safety impacts other factors of life on those not utilizing a car directly. As road safety decreases, people are less likely to be physically active on or near those roads due to concerns about crashes and their overall safety, which leads to other health issues such as heart disease, stroke, and diabetes.³⁰ By working to increase the safety of roads, other preventable deaths, not only those caused directly by roads, can be reduced.

In order to solve these issues, it is important to look at solutions that are both cost effective and increase safety. Such solutions include increasing the shoulders of the roads, widening bridges, and using more guardrails or barriers, all of which would significantly increase the safety of roads and decrease the severity of injuries during a crash.³¹ However, that would only address the physical issues with roads — it is also necessary to address the human factors, such as not following the speed limit, driving recklessly, and using an unsafe car.

While some nations have passed laws focusing on improving the state of roads and addressing any risk factors, few pay attention to whether the laws worked and significantly decreased the severity of injuries or the number of accidents.³² As a result, it is necessary to ensure that each nation continually adapts to any new issues, ensuring that the road is a safe place for all. This would include any laws focusing on the maintenance of roads, which would allow the roads to be adapted to changing climates and any physical issues, such as potholes or visible cracks.

Overall, it is important to focus on ensuring the safety of the road in order to reduce the amount of health-related problems that may occur — whether those problems are directly related to accidents that occur on roads or indirectly due to an active avoidance of danger. In both situations, the situation can only be improved by working to actively solve any issues that may arise and ensuring the safety of everyone who decides to use the roads.

³⁰ World Health Organization, 2018, *Global Status Report on Road Safety 2018*, www.who.int/violence_injury_prevention/road_safety_status/2018/en/.

³¹ Zaloshnja, Eduard, and Ted R Miller. "Cost of Crashes Related to Road Conditions, United States, 2006." *Annals of advances in automotive medicine*. Association for the Advancement of Automotive Medicine. Annual Scientific Conference. Association for the Advancement of Automotive Medicine, October 2009. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3256793/>.

³² "Global Status Report on Road Safety." World Health Organization, n.d. https://www.who.int/violence_injury_prevention/road_safety_status/report/state_of_road_safety_en.pdf?ua=1.

History of the Problem

The history of poor road infrastructure is attributed to the increasing number of roads and the decreasing amount of maintenance and care utilized with the roads. As more roads are created, the financial cost of maintaining these numerous roads increases at a significant rate, taking into account the increase in technology, environmental factors that must be considered, and the limited resources available. Thus, it is imperative to understand the growth of this problem and any future issues that may arise.

Change of Poor Road Infrastructure Over Time

Paved roads have been an integral part of the world since 3000 BCE, when they first appeared in Mesopotamia.³³ The first official major road system was constructed by the Roman Empire from 300 BC and was used for economic, military, and administrative reasons.³⁴ This was the first road system that relied on reliable road engineering methods, such as laying of foundations and the construction of bridges.³⁵ However, after the Roman Empire fell in the 5th century, land transport became hazardous due to the lack of maintenance of road segments and fragmented political entities—it took until the 17th century for national road transportation systems to be formally established.³⁶ As road transportation continued to improve and expand, problems started to emerge as a result of the increase of road usage.

These problems ranged from an increase of environmental externalities to traffic congestion to accidents, increasing the need of standards to ensure safety. For example, trucks and buses have specific weight and length restrictions in certain jurisdictions to increase safety, as heavy trucks can damage road infrastructures and increase the cost of maintenance.³⁷ This led to the necessity of establishing standards for all modes of transportation on roads, in order to ensure road longevity.

³³ Slack, Brian. "Transportation Modes." *The Geography of Transport Systems*, by Jean-Paul Rodrigue, 5th ed., Routledge, 2020, www.transportgeography.org/?page_id=1756.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Ibid.

Additionally, due to the growing economy, it is necessary to note that the cost of infrastructure will increase as well. As stated previously, there is an estimated global cost of around \$3.2 trillion a year, for 18 years, in order to solve all of the potential infrastructure issues that each nation is currently struggling with.³⁸ This is a direct result of the changes in road infrastructure occurring throughout the world — changes such as accounting for climate change, working to reduce past maintenance issues, and achieving new goals and standards.

As roads become more prevalent on a global scale, more issues arise in maintaining roads in their peak condition. For one, some road infrastructure projects are more for appearances' sake, rather than efficiency.³⁹ This leads to needless spending that could be used to enhance a different road in the nation or maintain the state of a pre-existing road.

Regions Most Affected

Lower income nations are some of the most affected by reduced infrastructure quality. The reasons for this are twofold: firstly, the government does not have the necessary resources at its disposal to perform repairs.⁴⁰ Secondly, if discussing private projects, the project cost is drastically increased due to the prevalence of politics, payments, and other potential risks, which significantly limit the scope of the projects and make them cost-prohibitive.⁴¹ In order to account for these problems, nations are recommended to construct the necessary infrastructure before selling the concession for both operation and maintenance, allowing for cashing out and reinvesting.⁴² This would allow for recycling of public capital while removing the more costly and slow parts of private involvement, which solves the issue of a lack of resources which made the projects cost-prohibitive in the first place.

Additionally, roads greatly assist with alleviating poverty in these poorer regions. They help generate jobs, boost economic growth, and improve quality of life for those in poverty, as they help citizens

³⁸ Hexter, Jimmy, and Jan Mischke. "Fixing the World's Infrastructure Problems." Harvard Business Review, April 11, 2013. <https://hbr.org/2013/04/fixing-the-worlds-infrastructure>.

³⁹ Ibid.

⁴⁰ Moore, W. Gyude. "Rethinking the Infrastructure Gap in the Poorest Countries." Center For Global Development, May 16, 2018. <https://www.cgdev.org/blog/rethinking-infrastructure-gap-poorest-countries>.

⁴¹ Ibid.

⁴² Ibid.

increase their job radius and reach their destinations safely.⁴³ By constructing these roads, nations are able to create significant prospects for long-term growth and are able to profit later generations.⁴⁴

Effect on Connectivity

Roads are an important asset to connectivity, as they connect cities and people to one another. They function as a part of a complex network that accommodates human activities by relating social, economic, and environmental systems with urbanization and population growth.⁴⁵ As more roads are constructed, there is an increased quality of life as both intercity and intracity connections are established. This allows for both urban aggregation and diffusion, which ultimately helps boost economic development.⁴⁶

However, it is also important to note the negative impact that these roads may have on the environment. Due to increased traffic on roads, there is an expected increase in CO₂ emissions, an impact on climate change, an increase in accidents, and potential ecological destruction if road projects are not planned in advance.⁴⁷

Global Prevalence

As the world continues to adapt and become increasingly more advanced, roads are becoming more prevalent as they are used for tightening connectivity between cities and increasing the trading possibilities. Just by upgrading primary road networks, it is estimated that it can increase trade worth by hundreds of billions of dollars — a significant amount that would greatly boost economic development.⁴⁸ The construction of roads also plays a direct role in the firm location and improving

⁴³ "Infrastructure in Developing Countries." *The Borgen Project*, Borgen Project, 18 Nov. 2019, <https://www.borgenproject.org/tag/infrastructure-in-developing-countries/>.

⁴⁴ Ibid.

⁴⁵ Wang, Luqi, Xiaolong Xue, Zebin Zhao, and Zeyu Wang. "The Impacts of Transportation Infrastructure on Sustainable Development: Emerging Trends and Challenges." *International journal of environmental research and public health*. MDPI, June 5, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025045/>.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ "Creating Pro-Poor Transport Connecting the Dots: Transport, Growth, and Poverty Reduction." World Bank. Accessed May 23, 2020. <https://www.worldbank.org/en/topic/transport/brief/connections-note-24>.

firm efficiency, allowing for an increase in the survival rate of firms, enticing new firms to be constructed near upgraded highways and roads, and allowing for firms to hold inventory for shorter durations.⁴⁹

On the rural scale, roads play an important role in enhancing food security and agricultural productivity. By allowing for rural road connectivity, there has been a noticeable increase in agricultural productivity as a result of reducing the travel time. This allows for farmers to adopt modern farming techniques and focus on cash crops, which ultimately raises the market participation of these farmers.⁵⁰ This reduces the likelihood of households facing multidimensional poverty, increases school enrollment, and increases usage of distant hospitals.⁵¹

On the urban scale, roads greatly help impoverished people living in the region. Roads allow for altering the production mix of the urban economy and impacts employment opportunities.⁵² The production mix shifts towards lighter tradable goods, which boost the overall economy, due to the roads allowing for more trade opportunities for the region.⁵³ Roads impact employment opportunities by increasing the job search radius. By constructing safer roads, the urban poor are capable of using public transportation to commute to further locations, thus increasing the efficiency and potential effectiveness of the job search.⁵⁴

⁴⁹ Ibid.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ "Creating Pro-Poor Transport Connecting the Dots: Transport, Growth, and Poverty Reduction." World Bank. Accessed May 23, 2020. <https://www.worldbank.org/en/topic/transport/brief/connections-note-24>.

⁵⁴ Ibid.

Past Actions

Many countries have worked on different approaches to solving the issues of poor road infrastructure. While these solutions have greatly improved road infrastructure globally, multiple other problems must be addressed to fully solve the issue of poor roads.

Laws

Around the globe, more and more nations are beginning to implement laws that work on improving road conditions. These laws encompass topics ranging from vehicular and human safety to improving the state of the road itself. A key component of improving road safety is utilizing effective central legislation, which is seen through the actions of numerous countries.⁵⁵

India's Motor Vehicles Amendment Bill contains three key components that work on ensuring road safety. These components involve road safety and its relationship with infrastructure planners, vehicle manufacturers, and road users.⁵⁶

These three factors are important to consider in any nation's law about poor road infrastructure. Firstly, the relationship between road safety and infrastructure planners is vital to ensuring that there is a national transport policy, including fines for safety violations and increasing public transport services, This improves accessibility and decreases the number of vehicles on the road at any one time.⁵⁷ Secondly, the relationship between road safety and vehicle manufacturers is critical in laying a base safety requirement for all vehicles — this would include placing motor vehicle standards to ensure the safety of road users.⁵⁸ Finally, the relationship between road safety and road users is a given in order to work on improving road conditions. This relationship includes funding treatment for crash victims and compulsory insurance to all road users.⁵⁹

⁵⁵ Bhatt, Amit. "India Has the Worst Road Safety Record in the World. A New Law Aims to Change That." World Resources Institute, September 13, 2019. <https://www.wri.org/blog/2019/08/india-has-worst-road-safety-record-world-new-law-aims-change>.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

While these specific instances are related to India's road situation, similar relationships and goals must be considered by all nations in order to improve poor road infrastructure and ensure safety.



State Funding

Funding is a crucial part to any nation's plan for improving their overall infrastructure, including road infrastructure. By improving the utilization of state funding that is used for road infrastructure, roads will be made safer while simultaneously saving money, which can then be allocated for other projects or development programs.

For instance, the United Kingdom was able to reduce journey times by 25% and reduce accidents on the M42 motorway by 50% simply by implementing an intelligent transportation system that directs and controls traffic flow.⁶⁰ In the United States, smart grids would help avoid \$2-\$6 billion a year in

⁶⁰ Bhatt, Amit. "India Has the Worst Road Safety Record in the World. A New Law Aims to Change That." World Resources Institute, September 13, 2019. <https://www.wri.org/blog/2019/08/india-has-worst-road-safety-record-world-new-law-aims-change>.

power infrastructure costs — in other nations, it has the potential to save up to \$400 billion a year.⁶¹ These two projects have three key components to ensure that funds are used efficiently and effectively. Firstly, projects that are invested in must be linked to broader economic and social development instead of allowing them to become “**vanity exercises**”.⁶² This means making strategic choices, evaluating costs and benefits rigorously, and then prioritizing the importance of projects accordingly. This could allow for nations to save up to \$200 billion a year worldwide, which can then be allocated for other projects and to help further develop the nation.⁶³ Secondly, delivery must be streamlined. Streamlined delivery includes increasing the speed of permits and land acquisition, encouraging innovation and cost savings, and strengthening collaboration with contractors.⁶⁴ Not only would this work towards accelerating the completion of projects, which allows for more projects to be undertaken, but it also could save up to \$400 billion a year.⁶⁵ Finally, it is important to utilize inventions and ideas that can be implemented sooner rather than rushing to build new capacity.

Overall, such actions would allow for better coordination between the different agencies involved in road infrastructure, such as power and road construction, and at different levels, such as the city, state, and country. This ultimately leads to a less fragmented infrastructure policy.⁶⁶

⁶¹ Ibid.

⁶² Hexter, Jimmy, and Jan Mischke. “Fixing the World’s Infrastructure Problems.” Harvard Business Review, April 11, 2013. <https://hbr.org/2013/04/fixing-the-worlds-infrastructure>.

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Ibid.

Possible Solutions

Increase Rural Access

Roads play an important role in enhancing food security and agricultural productivity for those living in rural areas. Increasing rural road access allows for an increase in agricultural productivity due to the reduction of travel time. By decreasing travel time, farmers are incentivized to adopt modern farming techniques and focus on cash crops for the largest potential yield, ultimately raising the market participation of farmers in rural areas.⁶⁷ By increasing the market participation of farmers in rural areas, the likelihood of households facing multidimensional poverty decreases as school enrollment increases, and usage of distant hospitals by those living in rural areas also increases.⁶⁸

Additionally, the lack of maintenance of rural roads have four key direct implications. It depreciates the value of the road network, increases the cost of transportation, decreases rural access, and reduces economic development and employment opportunities.⁶⁹

Depreciation of the value of the road network is directly linked to the importance of roads in many countries. This is especially true in Asia, where the asset value of rural roads represents about 27% of the overall GNP in 15 countries in the region.⁷⁰ Additionally, due to the lack of maintenance of these roads, the initial capital investment is wasted. This is a significant cost to society, as the money used could have been utilized for alternative investment opportunities.⁷¹

Transportation costs are also impacted by the state of a road. With improved roads, there is a lower cost of existing, generated, and attracted traffic, whereas a decrease in the quality of the road network reduces traffic levels, leading to an increase of transportation cost.⁷² Eventually, as the years progress and maintenance on roads is neglected, traffic conditions, traffic composition, and

⁶⁷ "Creating Pro-Poor Transport Connecting the Dots: Transport, Growth, and Poverty Reduction." World Bank. Accessed May 23, 2020. <https://www.worldbank.org/en/topic/transport/brief/connections-note-24>.

⁶⁸ Ibid.

⁶⁹ Donnges, Chris, et al. International Labour Organization, 2007, *Rural Road Maintenance: Sustaining the Benefits of Improved Access*, www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_bk_pb_226_en.pdf.

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Ibid.

traffic patterns change, causing the road to become increasingly impassable as the cost of transportation rises drastically.⁷³ Ultimately, there would be three major consequences as a result of decreasing the maintenance of rural roads — traffic levels decrease as transport costs and transport times increase, agricultural production will be negatively impacted, and the average annual household income will decrease.

Access to rural regions will also decrease as the state of roads deteriorate. This leads to the negatively affecting the productive potentials of agricultural land, schooling, health services, marketing, and other social and economic needs.⁷⁴ As a result, the living standards of the people living in these rural regions becomes compromised, causing frustration in communities.⁷⁵ Additionally, people living in rural regions depend more on public transportation, and when rural roads deteriorate, public transportation becomes more expensive, eventually leading to a decline in public transport services in rural areas.⁷⁶

Finally, there is a significant loss of employment opportunities. A lack of maintenance leads to a severe constraint on the growth of the local economy, as a greater investment in maintenance contributes to employment creation and generates income in the rural areas.⁷⁷ Additionally, while not maintaining roads does save some money, the amount saved is only a fraction of the benefits that are foregone.⁷⁸ Regardless, this amount saved would eventually lead to increased rehabilitation and transportation cost in the future, which would prove to be far costlier than the original cost of maintenance.⁷⁹ As a result, it is necessary for rural access roads to be dealt with through government projects, as the financial constraints, cost efficiency, and the small number of beneficiaries cause the priority of rural access road maintenance to be low.⁸⁰

⁷³ Ibid.

⁷⁴ Donnges, Chris, et al. International Labour Organization, 2007, *Rural Road Maintenance: Sustaining the Benefits of Improved Access*, www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_bk_pb_226_en.pdf.

⁷⁵ Ibid.

⁷⁶ Ibid.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Fukubayashi, Yoshinori, and Makato Kimura. "Improvement of Rural Access Roads in Developing Countries with Initiative for Self-Reliance of Communities." *Soils and Foundations*, vol. 54, no. 1, Feb. 2014, pp. 23–35., www.sciencedirect.com/science/article/pii/S0038080613001285.

Empower State/City Governments

In some cases, while federal governments are capable of completing national projects, they often overlook more local problems, such as traffic congestion, poor road maintenance, and affordable public transportation. As a result, it is important to empower state and city governments to work for the people they govern over, as local governments are able to more accurately address these issues, utilizing funding to solve the highest priority local issues.

The goal of empowering local governments is controlled by the general populace. The local level of government is where citizens get acquainted with the political system, with which they can become associated with political participation and representation.⁸¹ In this manner, the people elect local authorities and professional municipal administrators who will tackle local issues in line with the wishes of the citizens in the community. In order to increase the importance of local authorities, it is necessary to support them so that they can create networks and platforms to exchange best practices and existing know-how.⁸² Additionally, through the usage of international organizations, central governments can raise awareness of the importance of inclusive, transparent and accountable local level policy-making. This increases the need to decentralize decision making where appropriate, and to provide local authorities with actual powers and responsibilities.⁸³

As a result, it is necessary to maintain a balance between federal and local governments depending on the issue presented. This is seen within the United States of America, where a centralized federal government is unable to effectively govern over public affairs that affect the day-to-day lives of the people, resulting in the necessity of local governments.⁸⁴ Additionally, the goal of this was to empower the American people, as they had control over their own transportation systems, allowing

⁸¹ Bradley, Andrew. "Strengthening Local Democracy: Empowering Local Authorities." *Strengthening Local Democracy: Empowering Local Authorities* | *International IDEA*, Institute for Democracy and Electoral Assistance, 24 July 2017, www.idea.int/news-media/news/strengthening-local-democracy-empowering-local-authorities.

⁸² Ibid.

⁸³ Ibid.

⁸⁴ Goff, Emily. "Bringing Transportation Decisions Closer to the People: Why States and Localities Should Have More Control." *The Heritage Foundation*, 9 Apr. 2014, www.heritage.org/transportation/report/bringing-transportation-decisions-closer-the-people-why-states-and-localities.

local and state governments to have the flexibility to develop solutions that positively impact peoples' lives.⁸⁵

Ultimately, this is true for all nations that have different levels of government. By allowing for local governments to have more control over road infrastructure, it is more likely to improve road infrastructure in a way that best benefits the citizens in the region, compared to the larger national decision that may be made.

Educate Communities

A possible way to handle the poor maintenance of roads is by educating members of the community to maintain the roads themselves. In this scenario, it would be necessary to encourage the initiative of members of local communities by enabling them to repair the roads using simple technologies with locally available material and labor.⁸⁶ While this would mainly be applicable for more rural roads, it is a feasible solution. As communities acquire the necessary skills, it can be reasonably inferred that any problematic portions where they lose trafficability during rainy seasons, which would normally make the roads untraversable, can be repaired by the communities themselves.⁸⁷ This promotes the sustainability of rural access roads, as people with proper training are capable of repairing the roads by themselves with the available material when poor road conditions require it.⁸⁸

Additionally, communities must be educated on increasing the efficiency of road developments. For instance, there must be a stronger emphasis on decreasing the processing time of permits and land acquisition. This would assist with encouraging different forms of innovation and decrease the cost of roads, while simultaneously strengthening any collaboration with contractors.⁸⁹ There must also be an emphasis on incorporating improvements that are already present, rather than rushing to build new capacity. This is one of the most efficient solutions, as this has the estimated potential to save

⁸⁵ Ibid.

⁸⁶ Fukubayashi, Yoshinori, and Makato Kimura. "Improvement of Rural Access Roads in Developing Countries with Initiative for Self-Reliance of Communities." *Soils and Foundations*, vol. 54, no. 1, Feb. 2014, pp. 23–35., www.sciencedirect.com/science/article/pii/S0038080613001285.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Hexter, Jimmy, and Jan Mischke. "Fixing the World's Infrastructure Problems." *Harvard Business Review*, April 11, 2013. <https://hbr.org/2013/04/fixing-the-worlds-infrastructure>.

about \$400 billion a year, which can then be used to improve the maintenance and state of other roads or the construction of new roads.⁹⁰

⁹⁰ Ibid.

Bloc Positions

Asia

Many Asian countries are focusing on developing their road infrastructure, working towards creating more roads to expand their reach. This mentality was heavily influenced by China's **Belt and Road Initiative (BRI)**, which provides large amounts of finances and normalizes infrastructure investments in countries that were previously considered too risky to invest in.⁹¹ This has led to nations like Indonesia, India, and Kazakhstan aiming to implement billions, and potentially even trillions, of dollars in infrastructure projects and constructing plans that are overly ambitious within the coming years.⁹²

Specifically discussing China's BRI, it was a plan to create a network of different forms of infrastructure — roads, railways, border crossings, energy pipelines — through former Soviet republics and towards the rest of Southeast Asia.⁹³ The end goal with such an ambitious project is to expand the international usage of Chinese currency and, according to President Xi Jinping, "break the bottleneck in Asian connectivity."⁹⁴ Additionally, more than 60 countries have signed on to projects or have demonstrated interest in signing on — the largest of which is the **China-Pakistan Economic Corridor**, a project that aims to connect China to Pakistan's Gwadar Port on the Arabian Sea.⁹⁵

Due to the emphasis on expansion in Asia, the utilization of road infrastructure is a key component in China's goal to network and expand their reach of influence. As such, the construction and maintenance of road infrastructure is vital to the future success of the BRI project.

⁹¹ Prasad, Ravi. "Roads to Nowhere: Asia's Risky Obsession With Infrastructure." *The Diplomat*, 9 Jan. 2018, <https://thediplomat.com/2018/01/roads-to-nowhere-asias-risky-obsession-with-infrastructure/>.

⁹² Ibid.

⁹³ Chatzky, Andrew, and James McBride. "China's Massive Belt and Road Initiative." *Council on Foreign Relations*, 28 Jan. 2020, www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative

⁹⁴ Ibid.

⁹⁵ Ibid.

Europe

In European nations, there is a strong relationship between transport infrastructure and the vehicles that utilize that infrastructure. However, this high usage of infrastructure results in a large amount of greenhouse gas emissions. As a result, it is important to improve the efficiency of transport system operations in order to reduce the greenhouse gas emissions.⁹⁶ This necessitates adapting to the changing environment by developing infrastructure that is efficient while being flexible enough to meet changing demand.⁹⁷ As technology becomes more prevalent, digital technology must contribute significantly to enable these changes, working towards creating an ease of charging or ticketing and creating a reliable connection throughout transport journeys.⁹⁸

Latin America

In Latin America, efficient and effective infrastructure in general has been a difficult goal to achieve. While each country is in different stages for their overall state of infrastructure, the norm in the region is shockingly low. In order to solve these issues, it is important to realize what the issues are and the necessity of prioritization. For instance, it is estimated to take about 10 to 50 years to achieve universal coverage in electricity in the Latin America region. As a result, it is important for each country within the region to develop clear goals while noting the price and examining whether the resources are available.⁹⁹ This means that not each country will be able to focus their time and resources on improving road infrastructure, as more pressing matters — such as a lack of sanitized water or hygiene — may be a higher priority.

Canada and the United States

As a highly developed nation, infrastructure in the United States is of the utmost importance. The economy relies on a massive network of roads, railways, ports, and other forms of infrastructure in order to run smoothly. As a result, poor infrastructure can lead to large costs on the U.S. economy —

⁹⁶ Dalton, Graham, et al. European Union, 2017, *Transport Infrastructure*, <https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=34586&no=1>.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ Ibid.

in addition to the threat to human safety due to bridge collapses or dam breaches, poorly maintained roads can cost billions of dollars in lost economic productivity.¹⁰⁰ Traffic congestion alone can cost the economy over \$120 billion a year, leading to many analysts stating that investing in both new infrastructure and current maintenance would positively impact the economy.¹⁰¹

Currently, a majority of the United States major infrastructure systems, designed in the 1960s, are reaching the end of their lifespan, leading to a high cost of maintenance.¹⁰² The U.S. Department of Transportation estimates that over \$800 billion is required just to support the nation's roads and bridges, emphasizing the necessity for change and improvement.¹⁰³

A similar issue is present in Canada, with aging roads in poor condition. A report stated that nearly 40% of roads and bridges in Canada are in fair, poor, or very poor condition, with about 80% of those same roads and bridges being more than 20 years old.¹⁰⁴ The President and CEO of the Association of Consulting Engineering Companies - Canada, John Gamble, stated that Canadians should be concerned due to their quality of life relying on infrastructure.¹⁰⁵ Similarly, the president of the Canadian Construction Association reported that there is an urgent need for investments in Canadian roads and bridges — investments which may last for the next few decades to ensure the quality of the roads.¹⁰⁶

Africa

Africa's lack of more modern roads, power networks, and other infrastructure significantly hampers its economic development.¹⁰⁷ Africa does not have the necessary infrastructure to meet the basic needs of its population and reduce poverty — this includes having rural roads, basic health,

¹⁰⁰ McBride, James. "The State of U.S. Infrastructure." *Council on Foreign Relations*, 12 Jan. 2018, www.cfr.org/background/state-us-infrastructure.

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Wall, Don. "Report Sounds Alarm on Canada's Aging Infrastructure." *Daily Commercial News*, 15 Oct. 2019, www.canada.constructconnect.com/dcn/news/infrastructure/2019/10/report-sounds-alarm-on-canadas-aging-infrastructure.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid.

¹⁰⁷ Fleshman, Michael. "Laying Africa's Roads to Prosperity | Africa Renewal." *United Nations*, United Nations, 2009, www.un.org/africarenewal/magazine/january-2009/laying-africa%E2%80%99s-roads-prosperity.

education, banking and commercial services.¹⁰⁸ This problem holds especially true in the more rural areas, where a majority of the continent's people live.¹⁰⁹

This causes problems because roads are the main mode of transport for Africa, with about 80% of goods and about 90% of passengers carried along roads.¹¹⁰ However, 53% of these roads are also unpaved, which means that people are isolated from basic needs, further preventing Africa from becoming developed economically.¹¹¹ Due to these pressing concerns, it is important to focus on road construction in the African region, in order to ensure that that continent can move away from poverty and underdevelopment, granting the citizens access to basic needs.



¹⁰⁸ Fleshman, Michael. "Laying Africa's Roads to Prosperity | Africa Renewal." *United Nations*, United Nations, 2009, www.un.org/africarenewal/magazine/january-2009/laying-africa%E2%80%99s-roads-prosperity.

¹⁰⁹ Ibid.

¹¹⁰ "Infrastructure Development." *African Development Bank Group*, African Development Bank Group, 28 Aug. 2019, www.afdb.org/en/knowledge/publications/tracking-africa%E2%80%99s-progress-in-figures/infrastructure-development.

¹¹¹ Ibid.

Middle East

Many of the states in the greater Middle East invested heavily in road infrastructure with hopes of future road development.¹¹² Although countries are willing to upgrade and further develop roads that lead to main border crossings, these roads are rarely upgraded simultaneously on both sides of the border, leading to more issues.¹¹³ However, there have been instances where competition and emulation among neighboring countries lead to an acceleration of decision-making on both sides of the border, while other coordination instances have been unsuccessful.¹¹⁴

Currently, the United Arab Emirates has been working on improving transportation systems by utilizing intelligent systems.¹¹⁵ This includes the installation of traffic management systems, such as **Advanced Traffic Management System (ATMS)**, to regulate and manage traffic more efficiently and other similar projects to improve the efficiency and effectiveness of transportation.¹¹⁶

¹¹² Larbi, Heidi. Middle East Institute, 2016, *Regional Infrastructure Cooperation - Connecting Countries to Stabilize the Middle East*, www.mei.edu/sites/default/files/publications/PP4_Larbi_RCS_Infrastructure_web.pdf.

¹¹³ Ibid.

¹¹⁴ Ibid.

¹¹⁵ Grand View Research, 2018, *Middle East Intelligent Transportation Systems Market Size, Share & Trends Analysis Report By Type (ATMS, ATPS, APTS, EMS), By Application (Public Transport, Automotive Telematics), And Segment Forecasts, 2018 - 2025*, www.grandviewresearch.com/industry-analysis/middle-east-intelligent-transportation-systems-its-market.

¹¹⁶ Ibid.

Glossary

Advanced Traffic Management System (ATMS): The ATMS is a central management system that brings traffic network data into a single repository for a real-time, integrated view of traffic operations¹¹⁷

Agricultural Productivity: The ratio of agricultural outputs to agricultural inputs

Belt and Road Initiative (BRI): Referred to as the New Silk Road, it is one of the most ambitious infrastructure projects ever conceived. It was launched in 2013 by President Xi Jinping, with the goal of having the vast collection of development and investment initiatives stretching from East Asia to Europe, significantly expanding China's economic and political influence¹¹⁸

China-Pakistan Economic Corridor: A collection of projects that connect China to Pakistan's Gwadar Port on the Arabian Sea¹¹⁹

Diffusion: The spreading of something more widely

Food Security: The availability of food and one's ability to obtain it

Infrastructure: Infrastructure is the basic physical and organizational structures and facilities (for instance, buildings, roads, or power supplies) that are needed for the operation of a society or enterprise¹²⁰

Road Infrastructure: Road infrastructure is infrastructure that is part of or related to a road

¹¹⁷ "Central Management." *Trafficware, a CUBIC Company*, www.trafficware.com/central-management.html.

¹¹⁸ Chatzky, Andrew, and James McBride. "China's Massive Belt and Road Initiative." *Council on Foreign Relations*, 28 Jan. 2020, www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative.

¹¹⁹ Ibid.

¹²⁰ "Infrastructure." *Merriam-Webster*, Merriam-Webster, www.merriam-webster.com/dictionary/infrastructure.

Transportation Infrastructure: Transportation infrastructure is infrastructure that encompasses everything from roads, highways, airports, waterways, canals, and railways¹²¹

Urban Agglomeration: Urban agglomeration is a high developed spatial form of integrated cities — it occurs when the relationships among cities shift from mainly competition to both competition and cooperation. It is one of the most important carriers for global economic development¹²²

Vanity Exercises - Projects to make the nation look better rather than making the nation function more efficiently

¹²¹ Wang, Luqi, Xiaolong Xue, Zebin Zhao, and Zeyu Wang. "The Impacts of Transportation Infrastructure on Sustainable Development: Emerging Trends and Challenges." *International journal of environmental research and public health*. MDPI, June 5, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025045/>.

¹²² Fang, Chuanglin, and Danlin Yu. "Urban Agglomeration: An Evolving Concept of An Emerging Phenomenon." *Landscape and Urban Planning*, vol. 162, June 2017, pp. 126–136., www.sciencedirect.com/science/article/pii/S0169204617300439.

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<https://www.wri.org/blog/2019/08/india-has-worst-road-safety-record-world-new-law-aims-change>.

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Donnges, Chris, et al. International Labour Organization, 2007, *Rural Road Maintenance: Sustaining the Benefits of Improved Access*, www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_bk_pb_226_en.pdf.

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<https://www.oecd.org/g20/summits/osaka/G20-DWG-Background-Paper-Infrastructure-Connectivity.pdf>.

Woetzel, Jonathan, et al. McKinsey Global Institute, 2016, *Bridging Global Infrastructure Gaps*,

www.un.org/pga/71/wp-content/uploads/sites/40/2017/06/Bridging-Global-Infrastructure-Gaps-Full-report-June-2016.pdf.

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https://openknowledge.worldbank.org/bitstream/handle/10986/5977/9780195209921_ch01.pdf.

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Zaloshnja, Eduard, and Ted R Miller. "Cost of Crashes Related to Road Conditions, United States, 2006." *Annals of advances in automotive medicine*. Association for the Advancement of Automotive Medicine. Annual Scientific Conference. Association for the Advancement of Automotive Medicine, October 2009.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3256793/>.

TOPIC B: PROVIDING EQUAL EDUCATION FOR LOW-INCOME STUDENTS

Statement of the Problem

Introduction to the Problem

On a global scale, income plays a large role in one's future by determining a person's quality of life. By being wealthier, one may have more opportunities to excel in life — whether that relates to the surrounding community, being in a certain social circle, or being able to obtain more expensive items as a testament to their wealth. Economically speaking, poverty is defined by income measures, with absolute poverty line being calculated as the food expenditure necessary to meet dietary recommendations, supplemented by a small allowance for nonfood goods.¹²³ But many other researchers use a broader term — they define poverty as lacking not only material assets and health, but also capabilities, including social belonging, cultural identity, respect and dignity, and information and education.¹²⁴

To explain how to eliminate poverty, it is important to understand two key factors and how they interact with one another. First, the concept of changes in the opportunity structure, which consists of the dominant institutional climate and social structures within which disadvantaged people must work to advance their interests.¹²⁵ Secondly, it is important to note the changes in the capabilities of poor individuals or groups to take purposeful actions, called exercising **agency**, which includes individual (education, self-confidence) and collective assets (organization, identity, having a voice).¹²⁶

One of the most viable ways of escaping poverty is through education — by offering equal educational opportunities of different income levels, students are capable of moving away from

¹²³ Engle, Patrice L, and Maureen M Black. "The Effect of Poverty on Child Development and Educational Outcomes." California Polytechnic State University, n.d.

https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1002&context=psycd_fac.

¹²⁴ Ibid.

¹²⁵ Ibid.

¹²⁶ Ibid.

poverty. However, equal educational opportunity regardless of income level is a global issue, as lower-income nations are subject to inequalities due to income. These inequalities directly affect female education and other educational opportunities.

Child Development and Educational Outcomes

Child development is significantly impacted by poverty in all countries, as it provides a chronic stress that could interfere with developmental tasks.¹²⁷ Additionally, these children are at risk for academic and social problems along with poor health and well-being.¹²⁸ These issues lead to further issues throughout the college process — from applying to attending, creating a divide between those that are aptly prepared for the college process and those that are not, a divide created simply due to a lack of income. As a result, it is important to understand the impact that income has on a child's academic career.

Students from lower income families typically face difficulties in attending college, due to the increasing cost of college tuition and the widening wealth gap. This is caused by the fact that members of low-income families are less prepared for college than their higher income counterparts, due to an imbalance in access to opportunity.¹²⁹ For instance, in the United States of America, only 21% of high school graduates with family incomes lower than \$25,000 were highly qualified for admission at a four-year institution while 20% were minimally qualified.¹³⁰ Meanwhile, for students with family incomes over \$75,000, 56% were highly qualified and 12% were minimally qualified.¹³¹ This statistic heavily favors students from families with a higher income, demonstrating the imbalance of education quality between different income levels.

As students from lower income families are less qualified for admission at a four-year institution, they are less likely to actually attend a four-year institution, widening the educational gap between those that stem from higher income families and lower income families. In a world where higher-

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ "Low-Income and Minority Students." U.S. Department of Education, n.d.
<https://www2.ed.gov/offices/OPE/AgencProj/report/theme1a.html>.

¹³⁰ Ibid.

¹³¹ Ibid.

income jobs are becoming more dependent on specialized skills learned from four year-institution, the future income of students originating from low-income families also suffers. From 1979 to 2005, this inflation-adjusted earning was measured to be a decline of about 16%, which averaged about \$10 per hour.¹³²

This is also an issue in developing countries— in a sample of 80 countries, 12% of children in the top quintile of households never attended school whereas 38% of children in the poorest quintile never attended school.¹³³ This has led to a world where nearly 800 million people are unable to read or write — a prevalent issue that undermines the overall economic health of a nation.¹³⁴ As fewer resources of a nation are fully utilized, in this instance people, the less likely a nation is capable of reaching their full economic output and state of development.

With the increase in education, families are capable of moving away from poverty, thus reducing food insecurity as a whole. For instance, studies showed that having one year of education is associated with a 10% increase in wages, emphasizing the importance of education in preventing intergenerational poverty.¹³⁵ Education also plays a vital role in decreasing food insecurity in different nations. A study showed that the average gain in production associated with four years of schooling was 8.7% in 13 countries, allowing for a method of eliminating extreme poverty in a sustainable way.¹³⁶ In an era where more nations are becoming developed, the impact of education on poverty and development is one that must be noted.

Female Education

While female education is present in many developed nations, it is still an argued topic in many developing nations. In Somalia, 95% of girls between the ages of 7 and 16 have never been to school,

¹³² Ibid.

¹³³ Ibid.

¹³⁴ Elder, Shanon. "15 Important Poverty and Education Statistics to Know About." *The Borgen Project*, 17 Apr. 2017, <https://borgenproject.org/poverty-education-statistics/>.

¹³⁵ "Role of Education in Ending Extreme Poverty -Taking a Global Lead." NoradDev. Accessed May 23, 2020. <https://norad.no/en/front/about-norad/news/role-of-education-in-ending-extreme-poverty--taking-a-global-lead/>.

¹³⁶ Ibid.

showcasing the inaccessibility of education for women in some nations.¹³⁷ Education helps women recognize danger signs, seeking necessary care, and ensuring that trained health workers are present at births.¹³⁸ If all women in poor countries completed a primary education, it is estimated that child mortality would drop by a sixth, which comes in at about a million lives saved per year, with maternal mortality being cut by two-thirds, saving about 189,000 lives per year.¹³⁹ By completing a secondary education, almost three million lives would be saved. It is also important to note that the education of girls causes lower birth rates — In sub-Saharan Africa, women with no education have about 6.7 births on average, women with a primary education average about 5.8 births, and women with secondary education average about 3.9 births.¹⁴⁰ By providing higher levels of education, women are more aware of contraception and family planning, preventing overpopulation. Higher levels of education also helps with preventing childhood pregnancies, which decreases the chances of a child suffering from malnutrition and disease.¹⁴¹

While significant efforts have been made to increase the number of children obtaining an education, there are still far too many children out of school. An estimated 60 million children are still out of school and the decline in the number of children out of school has slowed. These children often face multiple factors including poverty, rural location, being a minority, and patriarchal gender roles.¹⁴² In order to account for all of these children and ensure a better future, it is necessary to consider ways to reach excluded populations and ensure equal educational opportunities for all.

¹³⁷ "10 Key Aspects of Girls' Education in Developing Nations." *The Borgen Project*, 26 Aug. 2018, <https://borgenproject.org/10-key-aspects-of-girls-education-in-developing-nations/#:~:text=Investing%20in%20girls'%20education%20provides,family's%20overall%20quality%20of%20life.>

¹³⁸ Ibid.

¹³⁹ "Role of Education in Ending Extreme Poverty -Taking a Global Lead." NoradDev. Accessed May 23, 2020. <https://norad.no/en/front/about-norad/news/role-of-education-in-ending-extreme-poverty--taking-a-global-lead/>.

¹⁴⁰ Ibid.

¹⁴¹ "10 Key Aspects of Girls' Education in Developing Nations." *The Borgen Project*, 26 Aug. 2018, <https://borgenproject.org/10-key-aspects-of-girls-education-in-developing-nations/#:~:text=Investing%20in%20girls'%20education%20provides,family's%20overall%20quality%20of%20life.>

¹⁴² "Role of Education in Ending Extreme Poverty -Taking a Global Lead." NoradDev. Accessed May 23, 2020. <https://norad.no/en/front/about-norad/news/role-of-education-in-ending-extreme-poverty--taking-a-global-lead/>.

History of the Problem

In a majority of countries, basic education is considered to be a right — a necessity for people to have to ensure success. However, this idea only became prevalent in the mid-19th century, when most of the industrialized countries started expanding primary education.¹⁴³

Each country then handled the widespread implementation of education differently — for instance, the United States of America focused on utilizing **public funding** to support public schools, with the main source of revenue coming from property taxes, with a miniscule percentage coming from fees and donations.¹⁴⁴ But this raises a new issue — public schools in affluent urban areas are capable of raising more funding from local revenues than public schools in impoverished areas, emphasizing this issue of inequality.¹⁴⁵

On the other hand, France also addressed the expansion of public education with funding from local governments before it transitioned to funding from the national government.¹⁴⁶ This allowed for a significant reduction in the amount of funding inequalities present at each public school, as the funding was no longer determined simply by a school's location. Additionally, by having this shift, France was able to move towards universal access and reduce the overall north-south inequalities which had been present.¹⁴⁷

Generally, an absence of education for some people has always been a problem — especially in areas of the world that are less developed. In 2014, 90% of students across the world were attending school — a significant increase due to joint efforts dating back to 2000.¹⁴⁸ However, it is still difficult to reach the remaining 10%, partly because they live in conflict-affected areas.¹⁴⁹ The remaining 10% also include marginalized families in the lower income bracket — people who have lower life

¹⁴³ Roser, Max, and Esteban Ortiz-Ospina. "Financing Education." *Our World in Data*, 22 June 2016, <https://ourworldindata.org/financing-education>.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

¹⁴⁸ "Role of Education in Ending Extreme Poverty -Taking a Global Lead." NoradDev. Accessed May 23, 2020.

<https://norad.no/en/front/about-norad/news/role-of-education-in-ending-extreme-poverty--taking-a-global-lead/>.

¹⁴⁹ Ibid.

expectancies, a higher incidence of health problems, and are more poorly nourished than the rest of the population — who want to invest in their children’s education.¹⁵⁰

There is a strong link between poverty and education through food insecurity, as children who have poor health or who are hungry will not come to school — or their academic performance may be impaired by poor health and nutrition.¹⁵¹ This becomes a major issue as many children in developing countries face severe nutritional and cognitive deficits — estimating that about an eighth of all children in developing countries are born malnourished and that 47% of children in low-income countries continue to be malnourished before the age of five, leading to a weakening in a child’s physical and cognitive potential, as well as non-cognitive traits such as motivation and persistence.¹⁵² These weaknesses lead to more issues as the gap continually widens, causing a downward spiral that could have been prevented.

Gender and Education

While education has made significant strides towards gender equality, there are still a lot of barriers present that prevent women from gaining an education. One of the major barriers for female education is poverty, shown in the country of Nigeria, where only 4% of poor young women in the North West zone can read, compared to the 99% of rich young women in the South East.¹⁵³ This highlights the impact that income levels have on making education more equal, especially based on gender. The **World Bank Group (WBG)** has been working with governments, civil society organizations, multilateral organizations, the private sector, and donors in order to assist in allowing equal education for girls, regardless of one’s income level.¹⁵⁴ In order to achieve this goal, the WBG focuses on providing conditional cash transfers, stipends, or scholarships, which makes education more affordable, reducing the distance to schools, which decreases the overall cost of obtaining an

¹⁵⁰ “Role of Education in Ending Extreme Poverty -Taking a Global Lead.” NoradDev. Accessed May 23, 2020, <https://norad.no/en/front/about-norad/news/role-of-education-in-ending-extreme-poverty--taking-a-global-lead/>.

¹⁵¹ Ibid.

¹⁵² Ibid.

¹⁵³ “Girls' Education.” *World Bank*, 25 Sept. 2017, www.worldbank.org/en/topic/girlseducation.

¹⁵⁴ Ibid.

education, and hiring and training qualified female teachers, which allows for more effective education and less of a regional cost.¹⁵⁵

Regions and Areas Affected

While education inequality is a significant issue globally, it is greater in low-income nations. For instance, even while global literacy rates have increased drastically, Sub-Saharan African countries that have literacy rates below 50% among the youth — a problem caused by a lack of public resource financing.¹⁵⁶ Countries such as Burkina Faso, Niger, and South Sudan currently suffer with literacy rates below 30%, even as every country outside of Africa, excluding Afghanistan, have literacy rates above 50%.¹⁵⁷ However, many assumptions have been made that literacy rates will be improving as the world becomes more developed. A study from **The International Institute for Applied Systems Analysis (IIASA)** predicts that, due to younger generations becoming better educated than older generations, rates of education will increase as the world develops — with only 5 countries (Burkina Faso, Ethiopia, Guinea, Mali, and Niger) having a rate of education above 20%.¹⁵⁸

¹⁵⁵ Ibid.

¹⁵⁶ Roser, Max, and Esteban Ortiz-Ospina. "Global Education." Our World in Data, August 31, 2016.
<https://ourworldindata.org/global-education>.

¹⁵⁷ Ibid.

¹⁵⁸ Ibid.

Past Actions

With the growing emphasis on equal opportunities for education, numerous steps have been taken in order to achieve this goal of equality. However, these steps are merely the foundation for greater change and, eventually, true equality.

Funding

Public Funding

One of the key factors of education is the funding, which is used for providing an educational facility, teachers, and anything else that is necessary to improve or enhance the learning environment. Prior to the mid-19th century, primary education was not as emphasized, as education was provided only to high-income families. The expansion of primary education came from most of the industrialized countries, as education became prized, due to its correlation with high-income countries.¹⁵⁹ Around the globe, as more countries become more developed and incomes — measured by **GDP (gross domestic product)** per capita — increase around the world, the total amount of global resources spent on education is also increasing.¹⁶⁰ Specifically, in an observation of 88 countries in 2000 and 2010, about three-fourths increased education spending as a share of GDP.¹⁶¹ As discussed earlier, the United States of America and France both originally operated on the basis of public funding, which greatly alleviated the cost for a family to send children to school. However, the issue with this quickly became apparent when more affluent regions were beginning to prosper and offered more opportunities when compared to poorer regions.¹⁶² While this issue still remains an issue in the United States of America, France shifted to national funding — ensuring that the number of funding inequalities decreased while allowing for equal opportunities amongst the public schools across the country.¹⁶³

¹⁵⁹ Roser, Max, and Esteban Ortiz-Ospina. "Financing Education." *Our World in Data*, 22 June 2016, <https://ourworldindata.org/financing-education>.

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² Ibid.

¹⁶³ Ibid.

Global Organization Funding

Through the growing importance of education, numerous organizations, such as the World Bank Group, have actively worked to provide funding for lower-income regions of the world. For instance, in order to balance the cost of education, the WBG works with females in order to provide conditional cash transfers, stipends, or scholarships, increases the number of hired and trained qualified female teachers, and builds safe and inclusive learning environments for girls and young women.¹⁶⁴

To reach this end, the WBG has made numerous investments into projects that enforce positive change through the education and empowerment of adolescent girls. For example, in April 2016, the WBG president Jim Yong Kim made a commitment to invest \$2.5 billion over five years through education projects.¹⁶⁵ Since then, about \$530 million has been committed to three high-need countries: Lebanon, Pakistan, and Nigeria.¹⁶⁶ An estimated 75% of these investments are believed to come from IDA, the WBG's fund for the poorest countries, such as those located in Sub-Saharan Africa and South Asia.¹⁶⁷ These investments include anything that will remove financial barriers that keep girls out of school, such as delaying child marriage, improving access to reproductive health services, and strengthening skills and job opportunities.¹⁶⁸ A majority of global corporation investments focus on the education of females due to the fact that females have more barriers to education than males in the same region.

Public Education Policy

Some other methods of increasing accessibility to education includes making public education either cheaper or free. For instance, in Uganda, after removing direct costs through universal primary

¹⁶⁴ "Girls' Education." *World Bank*, 25 Sept. 2017, www.worldbank.org/en/topic/girlseducation.

¹⁶⁵ Ibid.

¹⁶⁶ "The Transformative Power of Educating an Adolescent Girl." *The World Bank*, 10 Oct. 2016, www.worldbank.org/en/news/video/2016/10/10/the-transformative-power-of-educating-an-adolescent-girl.

¹⁶⁷ "World Bank Group to Invest \$2.5 Billion in Education Projects Benefiting Adolescent Girls." *The World Bank*, 13 Apr. 2016, www.worldbank.org/en/news/press-release/2016/04/13/world-bank-group-to-invest-25-billion-in-education-projects-benefiting-adolescent-girls.

¹⁶⁸ Ibid.

education, enrollment increased by over 60% and cost-related dropouts significantly lowered.¹⁶⁹ In Malawi, implementing free primary education increased enrollment by half, favoring girls and poor people, while in Sierra Leone, primary and secondary education is free and tax collection from the richest people increased.¹⁷⁰



Laws and Agendas

Across the globe, numerous nations have established guidelines and goals in order to achieve equality in the educational world, with many passing laws to achieve such goals. One of the most recent such agendas was the United Nations' 2030 Agenda for Sustainable Development (SDG5), which focused on achieving greater equality between women and men.¹⁷¹ A key component to achieving that goal is through education. While it is incredibly difficult to obtain educational opportunities for everyone, numerous countries, such as South Korea and Vietnam, are working to

¹⁶⁹ "Education in the Developing World." The Human Journey, April 16, 2019, <https://humanjourney.us/health-and-education-in-the-modern-world/education-in-the-developing-world/>.

¹⁷⁰ Ibid.

¹⁷¹ Ibid.

provide high-quality education to all students, decreasing the gap between students in privileged groups and students in non-privileged groups.¹⁷² The Vietnamese government has been spending 20% of its budget on education, and its policy “Fundamental School Quality Level Standards”, have resulted in universal access to education and that minimal conditions were met in every primary school.¹⁷³

Other attempts to equalize the educational quality of students include the United States of America’s No Child Left Behind Act of 2001. This act, passed by President George W. Bush, aimed to set annual statewide progress objectives to ensure that all groups of students reached proficiency within 12 years, and then test children annually in grades 3 through 8, in reading and math, to measure their progress.¹⁷⁴ The individual states would be allowed to select and/or design their own tests and would receive federal funds to help develop the tests with the test results being compared to an independent benchmark called the National Assessment of Educational Progress (NAEP).¹⁷⁵ By setting an independent benchmark, it ensured that schools were not setting the test stands too low or too high. However, the issue with this act was that it did not account for regional variations in educational quality. As the United States of America has regions that are more affluent than others, this act did not necessarily account for the differences in the quality of education, choosing to instead set a predetermined standard expectation.

¹⁷² Ibid.

¹⁷³ “Vietnam: Global Partnership for Education.” *Education in Vietnam | Global Partnership for Education*, www.globalpartnership.org/where-we-work/vietnam.

¹⁷⁴ “No Child Left Behind - The New Rules | Testing Our Schools | FRONTLINE.” *PBS*, Public Broadcasting Service, www.pbs.org/wgbh/pages/frontline/shows/schools/nochild/nclb.html.

¹⁷⁵ Ibid.

Possible Solutions

Improved Funding

As demonstrated by the nation of France, switching from funding from local governments to funding from the national government can greatly decrease the amount of inequalities present in the educational system.¹⁷⁶ However, as that may not be necessarily feasible or possible for every nation, it is important to consider how funding could be better allocated or increased in order to offer equal opportunities for all students, regardless of income. For instance, low-income students need significant additional funds for education in order to overcome issues of poverty.¹⁷⁷ These additional funds would help attract highly qualified teachers, improve the curriculum, and fund additional programs such as early childhood education.¹⁷⁸ **Weighted student funding** would greatly assist with funding programs that will have the greatest impact on the student population, thus improving the education experience for students.¹⁷⁹ This would allow for each school to obtain the most out of their funding and ensure that their students are capable of learning in an environment conducive to their success.

Additionally, it is important to ensure that schools are providing all students with a high-quality education. This can be seen by viewing the outcomes of the students in the educational environment — that the funding supports the resources, programs, and services that all students require in order to fully participate in the workforce and their community.¹⁸⁰ As a result, it is imperative that policymakers simultaneously refine education standards, so they are aligned to the changing society and implement rigorous accountability systems to assess if schools are meeting these goals.¹⁸¹

¹⁷⁶ Roser, Max, and Esteban Ortiz-Ospina. "Financing Education." *Our World in Data*, 22 June 2016, <https://ourworldindata.org/financing-education>.

¹⁷⁷ Martin, Carmel, et al. "A Quality Approach to School Funding." *Center for American Progress*, 13 Nov. 2018, www.americanprogress.org/issues/education-k-12/reports/2018/11/13/460397/quality-approach-school-funding/.

¹⁷⁸ Ibid.

¹⁷⁹ Ibid.

¹⁸⁰ Ibid.

¹⁸¹ Ibid.

Incentivize Teachers

While a good educational facility can provide students with opportunities, it is the teachers that dictate the quality of education that the students receive. Teacher shortage in general is a very prevalent issue, especially in developing countries.¹⁸² **The United Nations Educational, Scientific, and Cultural Organization (UNESCO)** estimates that another 69 million teachers are needed around the world in order to give everyone an education.¹⁸³ While technology is sometimes used to compensate for the lack of teachers, it is not a certified way of obtaining a quality education. This is due to the necessity of teachers posing larger scale questions to ensure the student thinks larger. Pre-scripted lesson plans have been written remotely and transmitted to e-readers of instructors who are not typically certified teachers, and they rarely pose or encourage questions from the students.¹⁸⁴ Therefore, it is necessary to utilize funds in order to incentivize quality educators to teach in low-income regions.

Enforce the Right of Education

It is important to consider the necessity of education in the world, especially in terms of ending poverty and thus preventing the cycle of low-income families being unable to afford education for their children in the future. As a result, the right to have an education is one that must be enforced — increasing access to education can help equalize communities.¹⁸⁵

There are four key ways that education helps foster equal opportunities. Firstly, education helps by reducing poverty levels. A quality education is capable of increasing income levels while decreasing poverty levels — UNESCO estimates that each year of schooling raises earnings by about 10% for males and up to 20% for females.¹⁸⁶ Secondly, education has the ability to boost the opportunity for

¹⁸² "Education in the Developing World." *The Human Journey*, April 16, 2019, <https://humanjourney.us/health-and-education-in-the-modern-world/education-in-the-developing-world/>.

¹⁸³ *Ibid.*

¹⁸⁴ *Ibid.*

¹⁸⁵ "What Is the Connection Between Education and Poverty?" *Global Citizen*. Accessed May 23, 2020, <https://www.globalcitizen.org/en/content/poverty-education-satistics-facts/>.

¹⁸⁶ Walker, Jo, et al. Oxfam International, 2019, *The Power of Education to Fight Inequality*, www.oxfamilibrary.openrepository.com/bitstream/handle/10546/620863/bp-education-inequality-170919-en.pdf

the younger generation, as **social mobility** is tied to the availability of education.¹⁸⁷ Thirdly, education helps bring society together. Schools can be places where children from different income levels can become friends, allowing for barriers of inequality to be broken.¹⁸⁸ This allows for students to potentially challenge rules about economic inequality in broader society, which means more young people are capable of building more equitable societies.¹⁸⁹ Finally, education helps support democratic societies. Education helps by offering individuals the tools to exercise their right to an equal say over the structures and policies that govern their lives, which then boosts democracy, leading to greater political and civic engagement.¹⁹⁰



¹⁸⁷ Ibid.

¹⁸⁸ Ibid.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

Bloc Positions

South Asia

In a study conducted by the WBG that analyzed the performance of South Asian educational systems in terms of student learning, governments recognized the fact that the quality of education in schools must be improved, even though access to schools had increased.¹⁹¹ The World Bank Vice President for the South Asia Region, Philippe Le Houérou stated that “spending time in school is not enough. There has to be a significant gain in skills that requires an improvement in the quality of education. This will help countries in the region to reap the full expected returns on their investments and generate gains in productivity and economic growth.”¹⁹²

Many of the governments in that region, such as Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, invested heavily in education to achieve the **Millennium Development Goal (MDG)** of universal primary education — this resulted in a net enrollment rate in primary schools across South Asia from 75% to 89% from 2000 to 2010.¹⁹³ While Sri Lanka achieved near-universal primary education decades ago, countries like Afghanistan and Pakistan lagged significantly behind other South Asian countries.¹⁹⁴

In order to achieve equal opportunities for education, it is also important to take into account one of the major barriers to education that is linked with poverty in South Asia. South Asia has the world’s highest rates of childhood malnutrition, which, as mentioned earlier, can have a damaging effect on a child’s ability to learn.¹⁹⁵ As a result, it is critical to focus on investing in early-life nutrition, which could help with the disadvantages of malnutrition.

¹⁹¹ Aguilar, Gabriela. “Poor Quality Education Holding Back South Asia, World Bank Says.” *The World Bank*, 30 June 2014, www.worldbank.org/en/news/press-release/2014/06/30/poor-quality-education-holding-back-south-asia.

¹⁹² Ibid.

¹⁹³ Ibid.

¹⁹⁴ Ibid.

¹⁹⁵ Ibid.

Europe

Poverty's impact on education is clearly seen in Europe, where child poverty can drastically impact one's future. However, since the global financial crisis in 2008, there has been a constant decline in public spending on education in European Union member states, with an average drop of 3% between 2010 and 2013.¹⁹⁶ This overall leads to issues with success in an educational setting.

According to the **Programme for International Student Assessment (PISA)**, an internationally recognized test, 15-year-olds with parents from the most disadvantaged socioeconomic backgrounds are 33% more likely not to reach minimum competencies in mathematics.¹⁹⁷

Furthermore, in countries such as Greece, Hungary, Slovakia, Romania, and Bulgaria, the difference between the most disadvantaged and most privileged families exceeds 40 percentage points — in every other country, the difference is 20 percentage points or more, except in Iceland and Ireland, which both have a difference of 10 percentage points.¹⁹⁸ This means that many children living in disadvantaged households are deprived of basic educational opportunities.¹⁹⁹ This leads to a cycle where material deprivation results in poor educational success and vice versa.

Latin America

Latin American governments have taken significant steps to reduce poverty. In 1998, the presidents of the Americas met in Santiago, Chile in order to discuss policy priorities — the most important of which was education with the focus of alleviating poverty through the usage of compensatory policies.²⁰⁰ Rosa Maria Torres, the Programme Director for Latin America and the Caribbean at UNESCO performed a review of achievements in education reform over the decade of the 90s — she

¹⁹⁶ Polizzi, Maria Letizia. Save the Children, 2016, *Ending Educational and Child Poverty in Europe*, www.savethechildren.nl/sci-nl/media/Save-the-children/PDF/ending_educational_and_child_poverty_in_europe_02-12-2016.pdf

¹⁹⁷ Ibid.

¹⁹⁸ Ibid.

¹⁹⁹ Ibid.

²⁰⁰ Noel, Barbara. *Education Reform in Latin America: Equal Educational Opportunity?*, www.files.eric.ed.gov/fulltext/EJ1062558.pdf.

found that there was a greater focus on disadvantaged groups and issues related to them, including gender equity at the basic education level.²⁰¹

In April 2000, UNESCO held another World Education Forum in Dakar Senegal, where they aimed to further commit themselves to three key objectives.²⁰² Firstly, they aimed to expand and improve comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children.²⁰³ Secondly, they wished to ensure that all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, would have access to a completely free and compulsory primary education of good quality.²⁰⁴ Finally, ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programs.²⁰⁵ These key objectives all focus on ensuring that a quality education is available to all, regardless of income level or other potential disadvantages.

Canada and the United States

The educational gap due to varying income levels is clearly seen in both Canada and the United States of America. Over the past decade, the income gap has only increased between Canadian families, with educational outcomes becoming influenced by the varying family incomes.²⁰⁶ Canadian studies have demonstrated an association between low-income households and decreased school readiness — children from lower-income households were found to score significantly lower on measures of vocabulary and communication skills, knowledge of numbers, copying and symbol use, ability to concentrate, and cooperative play with other children than children from higher income households.²⁰⁷ Similar results were seen in various other studies, giving a unanimous opinion that poor children arrive at school at a cognitive and behavioral disadvantage — a gap that schools are not in a position to close.²⁰⁸ This was further proven by a study done by the Institute of Research

²⁰¹ Ibid.

²⁰² Ibid.

²⁰³ Ibid.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Ferguson, H, et al. 2007, *The Impact of Poverty on Educational Outcomes for Children*, www.europepmc.org/article/pmc/pmc2528798.

²⁰⁷ Ibid.

²⁰⁸ Ibid.

and Public Policy that showed that differences between students from low and high socioeconomic neighborhoods were evident by grade 3.

Additionally, these results are supported by similar studies in the United States that show that socioeconomic disadvantage and other risk factors associated with poverty have a negative effect on cognitive development and academic achievement.²⁰⁹ American studies also provided a strong correlation between socioeconomic status and exposure to risk factors — for instance, parents from disadvantaged backgrounds were more likely to have their children born prematurely as well as increase the risk for school failure for their children.²¹⁰

Africa

A majority of developing countries are located in Africa, and that can be seen in its educational crisis. The Social Progress Index and the Human Development Index both show that low educational attainment is the most widespread in Sub-Saharan Africa and South Asia.²¹¹ Africa also has the world's lowest secondary school enrollment rates at 28%, meaning that over 90 million teenagers are struggling for employment in low-paid, informal sector jobs.²¹² One of the causes for this issue lies with the government. Governments are failing to extend equal opportunities to the region's most marginalized children — this means that children from the richest 20% of households in Ghana average six more years in school than those from the poorest households.²¹³ Being poor, rural, and female equates to even more barriers — for example, in northern Nigeria, Hausa girls average less than one year in school compared to wealthy urban males who average nine years.²¹⁴

²⁰⁹ Ibid.

²¹⁰ Ibid.

²¹¹ "Poverty and Education in East Africa: Breaking the Cycle." *Habitat for Humanity Great Britain*, 18 Sept. 2018, www.habitatforhumanity.org.uk/blog/2017/04/poverty-and-education-east-africa/.

²¹² Watkins, Kevin. "Too Little Access, Not Enough Learning: Africa's Twin Deficit in Education." *Brookings*, Brookings, 28 July 2016, www.brookings.edu/opinions/too-little-access-not-enough-learning-africas-twin-deficit-in-education/.

²¹³ Ibid.

²¹⁴ Ibid.

Another large issue is the issue of conflict. Many of Africa's out-of-school children live in conflict zones such as Somalia and eastern Democratic Republic of Congo, in camps for displaced people in their home country or as refugees.²¹⁵ This raises more barriers to equal opportunities for education.

Middle East

Poverty and lack of education is a large issue in the Middle East. A UNICEF analysis covering 11 countries (Algeria, Comoros, Egypt, Iraq, Jordan, Mauritania, Morocco, the State of Palestine, Sudan, Tunisia, and Yemen) in the Middle East and North Africa notes that poverty impacts at least 29 million children — children who are deprived of 2 or more of the most basic life necessities including basic education, decent housing, nutritious food, quality health care, safe water, sanitation, and access to information.²¹⁶ The study also found that the lack of education was one of the key components of inequality and poverty for children.²¹⁷ This lack of education then fed into the cycle of poverty — as children were left uneducated and started families of their own, their children were just as likely, if not more likely, to live in poverty. There are many issues preventing the full understanding of the impact of poverty — for instance, countries in the region do not consistently collect data on poverty while widespread and ongoing violence and displacement make it extremely difficult to obtain data from conflict-affected countries.²¹⁸ This risks that policies and actions are unable to effectively address the issue of child poverty and take the necessary steps.

²¹⁵ Watkins, Kevin. "Too Little Access, Not Enough Learning: Africa's Twin Deficit in Education." *Brookings*, Brookings, 28 July 2016, www.brookings.edu/opinions/too-little-access-not-enough-learning-africas-twin-deficit-in-education/.

²¹⁶ "At Least One in Four Children Live in Poverty in the Middle East and North Africa." *UNICEF*, 15 May 2017, www.unicef.org/press-releases/least-one-four-children-live-poverty-middle-east-and-north-africa.

²¹⁷ Ibid.

²¹⁸ Ibid.

Glossary

Agency: Purposeful actions that include individual assets, such as education and self-confidence, and collective and family assets, such as organization, identity, and having a voice²¹⁹

Child Development: The ordered emergence of interdependent skills of sensorimotor, cognitive-language, and social-emotional functioning, which depends on the child's physical well-being, the family context, and the larger social network²²⁰

Gross Domestic Product (GDP): The total value of goods produced and services provided by a country in one year

Millennium Development Goals (MDG): Time bound targets, by which progress in reducing income poverty, hunger, disease, lack of adequate shelter and exclusion — while promoting gender equality, health, education, and environmental sustainability — can be measured²²¹

Programme for International Student Assessment (PISA): The Programme for International Student Assessment is an internationally recognized test that measures the ability of students, aged 15 years, to reproduce the skills in math and reading acquired at school. It also tests the student's ability to apply these skills to unfamiliar school and out of school environments²²²

Public Funding: Money that comes from the government, usually through taxes, that is used to help the public through different goods and services

School Readiness: Skills children need to profit from the educational experiences of formal schooling. These include a broad set of skills that affect a child's ability to learn in school, such as

²¹⁹ Engle, Patrice L, and Maureen M Black. "The Effect of Poverty on Child Development and Educational Outcomes." California Polytechnic State University, n.d.

https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1002&context=psycd_fac.

²²⁰ Ibid.

²²¹ "United Nations Millennium Development Goals." *United Nations*, United Nations, www.un.org/millenniumgoals/bkgd.shtml.

²²² Polizzi, Maria Letizia. Save the Children, 2016, *Ending Educational and Child Poverty in Europe*, www.savethechildren.nl/sci-nl/media/Save-the-children/PDF/ending_educational_and_child_poverty_in_europe_02-12-2016.pdf.

physical health, motor skills, self-care, emotional and behavioral self-regulation, social skills, communication skills, pre-academic skills, attention, and curiosity and motivation to learn. Some believe that it should be limited to literacy and numeracy²²³

Social Mobility: The possibility for children from poor families to end up better off than their parents²²⁴

The International Institute for Applied Systems Analysis (IIASA): The International Institute for Applied Systems Analysis is a scientific research institute located in Laxenburg, near Vienna, Austria. It conducts policy-oriented research into problems of a global nature that are too large or too complex to be solved by a single country or academic discipline. It is sponsored by its National Member Organizations in Africa, the Americas, Asia, and Europe. Its research is independent and completely unconstrained by political or national self-interest²²⁵

The United Nations Educational, Scientific, and Cultural Organization (UNESCO): The United Nations Educational, Scientific, and Cultural Organization seeks to build peace through international cooperation in Education, the Sciences, and Culture. Its programs contribute to the achievement of the Sustainable Development Goals defined in Agenda 2030, which was adopted by the UN General Assembly in 2015²²⁶

Weighted Student Funding: Funding that differentiates school budgeting based on the demographics that each school serves²²⁷

²²³ Ibid.

²²⁴ Walker, Jo, et al. Oxfam International, 2019, *The Power of Education to Fight Inequality*, www.oxfamilibrary.openrepository.com/bitstream/handle/10546/620863/bp-education-inequality-170919-en.pdf.

²²⁵ "What Is IIASA?" *International Institute for Applied Systems Analysis*, 9 July 2020, www.iiasa.ac.at/web/home/about/whatisiiasa/what_is_iiasa.html.

²²⁶ "UNESCO in Brief - Mission and Mandate." *UNESCO*, 23 July 2020, www.en.unesco.org/about-us/introducing-unesco.

²²⁷ Martin, Carmel, et al. "A Quality Approach to School Funding." *Center for American Progress*, 13 Nov. 2018, www.americanprogress.org/issues/education-k-12/reports/2018/11/13/460397/quality-approach-school-funding/.

World Bank Group (WBG) - The World Bank Group is one of the world's largest sources of funding and knowledge for developing countries. It is a group of five institutions that work for sustainable solutions that reduce poverty and build shared prosperity in developing countries.²²⁸

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