

Surf City XIX

Huntington Beach High School

UNDP

Topic A: *Educational Marginalization*

Topic B: *Smart Cities*



Welcome Letter

Dear Delegates,

On behalf of the Huntington Beach High School Model United Nations Program, we would like to welcome you to our Surf City XIX advanced conference!

Our annual Surf City conference upholds the principles and intended purpose of the United Nations. Delegates can expect to partake in a professional, well-run debate that simulates the very issues that those at the United Nations discuss every day. Both novel and traditional ideas will be shared, challenged, and improved.

It is our hope that all delegates will receive the opportunity to enhance their research, public speaking, and communication skills as they explore the intricacies of global concerns through various perspectives, some of which may be very different from their own. We hope their experiences here give them new insight and values that they can apply outside of the realm of Model UN for the betterment of the world community.

Please do not hesitate to approach our Secretariat or Staff Members with any questions or concerns that you may have throughout the day. We wish the best to all our participants and hope that they may share a fulfilling experience with us!

Enjoy the conference!

Sincerely,



Zach Bernstein
Secretary General



Vivian Bui
Secretary General



Lauren Le
Secretary General



Alison Miu-Martinez
Secretary General

Meet The Dais

Mia Fullerton

Hello! I'm Mia, and I'm excited to be your Chair for Surf City in my fourth and final year of high school Model United Nations. To ensure I am a well rounded delegate, I try my best to engage all the skills outside of the program too: creativity in my children's book, research as a college research assistant, and resourcefulness through our performing art school's technical theater program. In MUN, UNDP has been consistently one of my favorite committees. I'm also hoping to pursue racially-concerned education reform as a career, and I was chosen to be Plenary Speaker at the National High School MUN conference, speaking in front of almost 1,000 delegates after competing in the Group of 20, where our topic was Smart Cities. So, I especially cannot wait to see the hours you spend researching these topics come into fruition in a productive debate! The three of us are honored to moderate it :^).

Ryan Layman

Hello! I'm Ryan Layman and I have been a part of the HBHSMUN program since my freshman year. In addition to being in MUN, I am also a part of the Technical Theater department of the Academy for the Performing Arts (APA). I joined as a freshman and have worked on numerous plays and shows including *Beauty and the Beast*, *Phantom of the Opera*, and *Titanic: The Musical*, most recently. Outside of school, I enjoy spending time outdoors and staying healthy. I love to hike, mountain bike, rock climb, surf, and go offroading in my '92 Jeep. I value learning about the world around me, and I cannot wait to see what solutions you all bring to debate. See you there!

Kaya Miller

Hi, my name is Kaya Miller and I am a junior working on my third year of MUN. I really enjoy both the class and conference aspect of this program and I am really excited to chair my very first conference and share this lovely experience with you guys. Outside of MUN, I like to try new things and have played for Huntington Beach's wrestling team, practiced Taekwondo, and even tried my hand in Jiu-Jitsu. I am also engaged in the school's performing arts program in Technical Theater and last year in Dramatic Production. I am so excited to read and hear all about the ideas you guys have about these topics.

All Papers are due on **JANUARY 30, 2022** by 11:59pm to
surfcitymun.UNDP@gmail.com

Topic A: Educational Marginalization

Background

The United Nations has determined education as a universal human right; however around the world, marginalized groups of people are not allowed access to higher qualities of education¹. In 2000, the World Education Forum met in Dakar in order to create a global benchmark on the standards of accessibility of education. However, by 2015 it became increasingly clear that the goals set forth were not being met on a global scale, resulting in the Education for All Global Monitoring Report, which underscored the need for incorporating marginalized groups into education. Their goal was to successfully establish effective education on a global scale. Those marginalized within education often face discrimination in other aspects of society: for example, on the premises of gender, ethnicity, race, class or disability. The discrimination these people face in education and beyond stresses the need for social change along with legal action. As the lack of good education restricts opportunity, it entrenches groups in a society in which they are unable to succeed economically too, as lack of proper education can lead to lack of employment and thus heighten poverty².

People living in developing states often experience high levels of educational marginalization. A 2010 study by the Deprivation and Marginalization in Education (DME) report showed that while in first world countries, such as the United States, fifteen years of schooling was standard, in 19 Sub-Saharan African countries the average person received fewer than four years of education in their lifetime. Ending marginalization of impoverished people in education is detrimental cyclically, as many who do not get educated lack the resources to acquire higher paying jobs and thus force the next generation into the cycle. UNESCO has stated that if every student reached literacy, 171 million people would be able to escape extreme poverty, as universal fulfillment of secondary education would reduce the global poverty rate by at least 50 percent³. While notable, this is indubitably easier said than done, as in many developing nations governments lack the infrastructure and funds to be able to provide public schooling⁴. This places the burden of teacher salaries, construction, supplies, and even uniforms on some of the poorest people, actively incentivizing them not to send their children to school, as to be able to afford other commodities⁶. Moreover, even after the initial enrollment of poorer students into schools, it is far more common for low income children to drop out of school to support themselves or their families. In widely impoverished Sub-saharan Africa, 50 percent of children failed to complete primary school in 1999 and an average of 27 percent of children in developing nations did not complete their vital primary education.

There are many inequalities just within a State's borders. In Uzbekistan, thought to have strong universal public education, only 36 percent of low income children receive education. In contrast, 86 percent of children from wealthy families were educated the same year⁵. Mexico is a prime example of a nation that has attempted to combat the disparities within their own country, even urging other nations to follow suit, but their difficulties have revealed the challenging nature of mending these inequalities. The nation utilized the Prospera program, featuring conditional cash transfers (CCTs) in order to offset the cost of education in poor families. Despite praise and aid from organizations such as the World Bank, the program soon was discontinued due to the lack of support from the general population, considering their own tax dollars were funding the education of strangers. This was a foreign idea in the nation. Within those supposedly benefiting from the program, 55 percent of poverty ridden families within

Mexico were excluded from benefits. This was detrimental to the program's success, leading the selection process to be similar to winning the lottery. Additionally, in order to monetarily support selected families, the Mexican government also placed financially burdensome mandates on families who did not, which served to effectively increase marginalization of the poor, indigenous, and female. It was widely criticized as perpetuating the problems in which it set out to solve. Despite ending the program in 2019, the government of Mexico was forecasted to be unable to repay the loans they had to take out from the World Bank for two additional years⁶.

Although they comprise almost half of the world population, the marginalization of students based on gender is still prevalent today, causing millions to struggle to receive an adequate education due to cultural barriers, laws, and violence. In some lesser developed countries, as few as 36 percent of girls complete secondary school, and in warring countries, the number of girls who do not attend school is almost three times higher than boys⁷. When girls are able to attend school, they are often made to feel unsafe, as each year, 60 million girls are assaulted on their way to school which further disrupts their education. Only 87 percent of schools around the world even possess facilities for women to use⁸. The unequal education of women can be seen to stem from society's view of women. Pakistan holds some of the most normalized inequality on the basis of sex, with a thousand honor kills per year, the highest Asian mortality rate, proliferated acid attacks, and 21 percent of all marriages being to a female child. Intuitively, the nation has some of the largest gender disparities within their education. In some areas, 75 percent of girls never attend any school. Furthermore, social norms also affect a girl's access to fair and equal education as girls with access to education may be pulled out of school after they reach puberty. Most often, these occur from the family's pressure to prevent romantic and sexual relations⁹. However, this leaves girls societally dependent on educated men who can maintain better paying jobs, cementing a woman's subsidiary role in society. In India, compulsory education became required of all genders in 2009, which worked to increase the amount of girls attending schools by 6.5 percent by 2018. However, as the government still allows children to work in agriculture and the home, many girls continue to be forced out of school in order to help to raise their siblings. Today, 65 percent of girls in India taken from school do so to take care of housework¹⁰.

Race and ethnicity is unfortunately another contributing factor in the quality of education that many students receive. The United Nations Forum on Minority Issues in 2008 uncovered that many nations had laws reducing or eliminating minorities' access to schools or allowing for important histories of such minorities and indigenous people to be overlooked¹¹. Furthermore, public schooling is often only taught in the most dominant language of an area which reduces the ability for a child of a different ethnic group in the region to receive the same education. Although one of the UN's Millennium Development Goals of 2000 was to ensure that all children received at least a primary level education, as well as a follow up at the "Education for All" conference, where countries pledged that minority ethnic groups would be included in unrestricted access to free primary education. However, many governments still fail to recognize indigenous and minority groups properly. This leads to half of the over 100 million students currently unable to attend school being from minority or indigenous backgrounds¹². This area of educational marginalization is one of the most pervasive, as it affects developing nations and developed nations alike, through the lasting effects of colonization and the modern day effects of post-slavery recovery respectively.

United Nations Involvement

The 1948 Universal Declaration of Human Rights states under Article 26 that everyone is entitled to education¹³. The United Nations has continued to hold this belief as their fourth Sustainable Development Goal (SDG) which is to provide equitable and high quality education for all¹⁴. In order to work towards this goal, the United Nations held a convention in conjunction with the International Association of Universities, the Association of Commonwealth Universities, and SDG Academy in July 2021. During the convention, the United Nations released a catalog of new courses including one to understand poverty as well as inequality in education¹⁵. Furthermore, in 2015, the United Nations created a Roadmap of 2030 as in which it outlines a three step plan to fund the SDGs, of which action 2.3 suggests the application of financing education for all through social services, protection and sustainable financing¹⁶.

The United Nations has funded schools in impoverished areas such as the Bamyan province in order to bridge the gap between education in class status. The World Bank and the Afghanistan Reconstruction Trust Fund built the Bamyan school to allow for girls to attend schools, quadrupling the attendance of students attending school after 5th grade. The Second Education Quality Improvement Program (SEQUIP II) has created 338 Management Councils to improve education in Afghanistan, as well as mobilized people to create geographical accessibility of education, eliminating issues such as lengthy commutes¹⁷. The World Bank has funded a similar project utilizing SEQUIP in Tanzania, where violence, gender inequality, and teen pregnancy results in lack of school attendance. These factors insert marginalized people into a cycle of dependency, uneducation, and poverty, further increasing the number and severity of hardships they face. The program in Tanzania allowed students who had dropped out to re-enter open secondary schools or one of 30 Folk Development Colleges providing residential options. SEQUIP also works to combat the gender-based violence that keeps many girls away from schools. The program has built schools closer to communities to reduce long commutes alone, implemented trained guidance staff and positive disciplinary methods¹⁸.

The United Nations has also written a variety of documents to address marginalization in education. These include a 2004 five step plan by the Special Rapporteur of the Commission on Human Rights on the Right to Education. The plan detailed how to exterminate xenophobia and racism in educational spaces¹⁹. The United Nations also adopted Resolution A/52/634 which states that education for all is necessary in order to quell gender inequality and the growing wealth divide²⁰. Furthermore, in Resolution 50/153 detailing the rights of a child, it is said that a child's gender, ethnic background, religion or origin are negligent to their right to be educated²¹. In 2013, the UNHRC published a study on how to best integrate people with disabilities into educational settings to allow them the same opportunities and education²². The United Nations has worked for decades to advocate for indiscriminate education for all, providing for universal social and economic safeties worldwide.

Case Study: The New American Apartheid

Unfortunately, educational marginalization is not an issue that is regionally focused, exclusive to lesser developed nations, or even poorer or low-status individuals. In all six permanently-populated continents, progress towards the removal of educational marginalization between high-income, mid-income, and low-income families is stagnant²³. Girls perform better than boys in literature by as much as 11 percent in certain parts of Europe. In Australia and Canada, second-generation migrant children actually perform better in school than non-migrant children²⁴. Thus, it is irresponsible for the international community to focus their efforts solely

on a specific group or on global underdevelopment “hotspots.” Today, racial educational marginalization in developed nations is one of the most overlooked forms.

Though the slavery in the American South was abolished by the ratification of the Thirteenth Amendment in 1865, this did not mark the end of educational marginalization of Black Americans. “Jim Crow” laws were passed in Southern state legislatures starting in the 1870s requiring the segregation of Blacks (and other suspected persons of color) and whites in public institutions, like that of the education system. Segregation was codified into legislation with the “separate but equal” clause being established by Supreme Court case *Plessy v. Ferguson*, and though overturned by case *Brown v. Board of Education* integrating schools in 1954, the effects of segregation did not immediately dissipate. Even as explicit segregation was phased out, it would still occur in more covert manners²⁵. For example, Black students would get labeled disabled and moved into different classrooms²⁶. The effects of such brash marginalization persist into the modern day in a plethora of forms; it is notable how seemingly obsolete discriminatory policies affect even the richest of nations.

The percentage of Black children who attend integrated public schools in the United States is actually at its lowest level since 1968²⁷. In reality, schools are still heavily segregated throughout the nation. The infrastructure, resources, activities, and instruction at “Black” schools is severely lacking. Conditions in schools in the rural South inhibit students' ability to learn. Alternative teaching credentials were introduced in many inner-city and rural areas, which awards individuals with credentials to teach though they have not completed a teaching degree program. These have not proven to have success, but are naturally common in the instruction of African-American students. In Block High School in Jonesville, Louisiana, an athletic coach with only a teaching credential in Physical Education is forced to teach history, ACT preparation courses, and multiple sports. This is not the only issue permeating Block, as students do not meet minimum requirements for four-year colleges upon graduation and some buildings are dilapidated to the point they are legally considered not safe to enter. Block is one of the clearest examples of modern day educational segregation, in which students of nearby 90 percent white Harrisonburg High School (in the same school district) perform better academically and boast higher college matriculation rates. While Harrisonburg receives about 20,000 USD each year for maintenance, Block receives only 7,000 to complete its improvements, and community members believe this is largely due to the racial demographics²⁸. Opting out of the racial headaches of the American public school system is not financially or socially feasible either for many Black Americans: 67 percent of students in private schools are white and only nine percent are Black²⁹. The racial dissection of schools throughout the country explicates it is not possible to call American schools integrated.

Furthermore, racial inequality in schools is proliferated by the nature of funding for public education in America and many other developed states: largely that of local and state taxation. Due to this, education systems throughout the states are inherently unequal, where the quality of schools are proportional to the wealth of their surrounding areas³⁰. Redlining is a policy that has been historically detrimental to many Americans of color, in which red lines were drawn on maps in the 1930s to identify predominantly Black regions as “hazardous.” The nation’s Homeowners’ Loan Corporation and Federal Home Loan bank board then used these maps to deny investment services to Black Americans³¹. To this day, majority white suburbs produce substantially higher funds for their schools than Black cities, especially considering home values in Black neighborhoods are 25 percent lower than those in white ones, even when the communities are similar on other metrics. The city of Detroit proves how inequitably-deprived school systems can be, in which the border between wealthy and white Grosse Pointe and Detroit marks the separation between schools in literal shambles and those

with marble floors³². These examples prove regional inequality does not just affect the deep South, but major cities too. New York City has some of the least integration of Black students, and the rates of students of color not receiving schooling has grown from nine to 16 percent³³.

These marginalization issues occur on the personal scale within American schools. Black children, and especially Black boys, are at a disadvantage in disciplinary action, seeking graduation, and college matriculation. Educators themselves are still widely race-conscious in the treatment of their students, as has been proven by biases studies on American teachers, even for students as young as preschool-age. The skew explaining how much more prevalent reprimanding Black students are is difficult to explain without the presence of racist teachers and administrators. In Davila Middle School in Bryan, Texas, students are given tickets for disruptive offenses, and it was found Black students are four times more likely than white students to receive these tickets. Moreover, Black boys' attendance due to suspension is more than four times worse than that of white boys, and twelve times that of white girls; while 26.2 percent of Black students will see out-of-school suspension as a result of a first disciplinary infraction, the percent is only 9.9 percent for white students. Missing weeks of school due to suspension makes students more prone to dropping out, and without a diploma, individuals are more likely to become incarcerated and much less likely to earn a living wage. This is especially worrying considering white high school dropouts earn statistically more than Black college graduates³⁴. In response to these occurrences, Americans face trouble seeking justice, and subsequently change in school systems, as the nation's policy for their Office of Human Rights is to only investigate instances in which an individual allegation elucidates a systemic flaw. The implication of this policy is that even when toddlers (of color) are arrested by law enforcement for throwing a tantrum in class, as they are in reality, it is easy for overseeing offices to evade further action when reported³⁵.

Racial diversity alone is proven to increase the quality of education and success of graduates throughout the United States³⁶. However, solutions to create equity in American education and eliminate the effects of modern day segregation have been present, but nonetheless futile. Charter schools have occupied a large space in reintegration debates. Advocates of charter schools argue that disjoining school assignment with attendance will drive down students of color's predominant attendance of deprived schools, while opponents argue high rates of charter schools intensify the disparities. While charters have enhanced the education quality and college matriculation rates of some disadvantaged and minority groups, it has not been found to substantially decrease the rates of segregation as an approach to ending racial marginalization³⁷. Furthermore, the achievement gaps between white and Black students in standardized testing results and advanced college preparatory schooling has been more widely discussed in recent years, and a common solution has been college admission test-blind and test-optional policies. As colleges move towards test optional policies and ethnic minorities are monetarily rewarded for choosing Advanced Placement and honors tracks, it is promising that marginalized groups will face less trouble advancing their education in the near future³⁸.

Questions to Consider

1. How can countries bring education to those in remote locations?
2. How can cultural norms be overtaken in order to allow for education to be pursued by all people?
3. What can be done about the systemic nature of educational exclusion?
4. How can the international community ensure schools worldwide are adequately funded?
5. What should be done about implicit biases within education systems?
6. Who is responsible for holding leaders of global education systems accountable?

Endnotes

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Topic B: Smart Cities

Background

Smart cities are generally defined as areas with integrated intelligent urban systems, such as information and communication technology, to develop socio-economic affairs and broadly improve quality of life³⁷. In 2015, there were 828 million people reported to live in slums without proper drinking water or sanitation. This number steadily increases at a rate of 6 million per year. For this reason, the creation of smart cities is crucial as it is often associated with economic development. Cities make up 80 percent of the world's GDP, and civilians of urban cities earn 300 percent of the income of their rural counterparts. Cities, especially smart cities, often yield a smaller net carbon footprint, have less need for excess infrastructure, use fewer resources, and have higher productivity levels. That being said, cities can also be home to unemployment, social instability, pollutants, urban violence, crimes, and traffic jams. The terms digital cities, intelligent cities, and smart cities are improperly used interchangeably. Digital cities incorporate digital technologies into the city's already existing infrastructure system; intelligent cities make use of such digital city infrastructure to construct schools, transportation systems, public services, intelligent buildings, public spaces, and enterprises. Smart cities, in addition to this, utilize intelligent urban systems to improve the socio-economic affairs of individuals as well as the general standard of living. Smart cities use data from digital technologies (Cloud Computing, the Internet of Things (IoT), or Open Data) to boost citizen involvement and provide/improve services³⁸.

The first smart city is largely considered to be Amsterdam, the Dutch capital cognately named the European Commission's Capital of Innovation. Since 2009, the city has used a “quadruple helix approach,” using technology to better connect government, businesses, education, and the citizens. Effectively implementing mobility and circular economy initiatives, the city has decreased average time to find a parking spot by 43 percent, repurposed waste streams with the capability to feed 36 percent of the city's population, increased productivity levels with the capability to add 1900 new jobs, and implemented reusing strategies that are estimated to save about 285,000,000 USD³⁹. Showing such positive results, over 100 other cities internationally have since followed suit⁴⁰.

Smart cities begin with people. In other words, the goal is not to create the best digital interfaces and infrastructures, but rather using technology and data to increase the quality of life for people (improving air quality, safety, etc.). Data is the key to allowing agencies to monitor events and patterns as they occur, thus allowing them to suggest sustainable and cost-effective solutions and dictate decision making. Specifically, data is used to predict trends in crime, disease, general efficiency of infrastructure, and waste; then it appropriately applies these trends to preexisting urban systems to further the quality of life by improving mobility, security, healthcare, sustainability, economic development, and community satisfaction. This data is being gathered through smart phones, which is the most accurate way to receive intel regarding community news, public/private transit, health services, safety notifications, and traffic. This is why, in recent years, smart cities are being looked at through the lens of the people. Before, smart cities were about increasing digital interfaces in traditional infrastructure, and while this is still applicable, now, the use of smartphones allows for comprehensive and real-time data to be

easily accessible to agencies, enabling them to view shifting patterns and respond appropriately⁴¹.

Internet of Things, IoT, devices simultaneously collect and analyze data about a population or series of populations. They are most commonly used to improve infrastructure and services and are very effective in making systems more intuitive and efficient. Smart meters are a prime example, allowing users to track their energy consumption, and saving a predicted 157 billion USD. IoT devices have made additional large strides in transportation, especially automobile transportation, waste management, and other energy sources. Security concerns, from the public, corporations, and government, are the largest limiting factor to IoT expansion⁴². IoT also allows for communication between different technologies through the internet, allowing for real-time identification of issues and the discovery of problems before they occur. Cities like Barcelona provide high-speed Wi-Fi that allows for IoT to operate, saving 90.5 million USD of city funds, creating 46,000 jobs in the smart technology sector. In Amsterdam, the use of IoT-based infrastructure allows for the monitorization of energy usage, traffic flow, and public safety⁴³.

As aforementioned, privacy is the most apparent barrier in the proliferation of smart city development. As the potential effectiveness of smart cities is realized, the collection and subsequent sharing of personal data protecting one's privacy becomes increasingly difficult. This lack of privacy is ill-received in today's day and age and can halt progress towards the proliferation of smart cities. The company Sidewalk Labs attempted to convert the Canadian city of Toronto into a smart city, but privacy concerns yielded such strong backlash that the project had to be scaled down to just 2,280 sq acres along the waterfront in comparison to the over 1 million acres that Toronto encompasses. The European Union has begun to inspire trust by implementing General Data Protection Regulation to prevent the overuse of facial recognition technology. In order to be able to continue to progress in smart city development, it is imperative that a new trust and safeguards be built into the creation of future cities⁴⁴.

Another hindrance of progress is the lack of smart city standardization, which would form the foundation of interoperability, thus allowing future generations to construct new cities in a cost-effective manner⁴⁵. In addition, it would facilitate the ability to manage resources and decrease negative environmental impact by providing a common platform that the world can revert back to, thus allowing systems to work together which would in turn increase innovation⁴⁶. Standards do so by creating a common language and understanding, easing agreement on international solutions, and increasing partnership (both public and private)⁴⁷. A successful example of this is the Standard for an Architectural Framework for the Internet of Things, which set up an architectural framework that boosts cross-domain interaction, system interoperability, and functional compatibility to increase the growth of the IoT market. Lastly, standards allow for the measurement of the performance of cities and the solutions they are implementing, allowing them to highlight areas that need improvement. For example, the International Organization for Standardization (ISO) created "ISO standards" that provide solutions that can be universally utilized, coming to an international consensus on the most effective practices for different areas. City leaders and planners use these guidelines to determine goals and objectives, specifically regarding road safety, energy management systems, cybersecurity, connectivity, intelligent transit, water consumption, and health services." ISO 37101 also helps with the implementation of these standards⁴⁸.

The political and social environment changes with time, and regional plans for the completion, enhancement, and creation of smart cities change too. In 2020, Covid became a primary consideration when developing and designing smart infrastructure, leading to social distancing becoming an engineering focal point. Namely, this posed an issue to public

transportation. In 2021, the focus has once again shifted to include artificial intelligence and 5G. By the year 2024, it is estimated that there will be almost 2 billion subscriptions to 5G and cities and planning on using the wireless connection to influence traffic lights, public transit routes and creating a singular instant system of communication between machines. Artificial intelligence has also risen in popularity in the last year. Namely, the concept of self-driving cars has dominated technology conversations in recent. Artificial intelligence controlled stop lights were also introduced into Great Manchester in the United Kingdom as of 2020. Cities have also recently been utilizing Biometric identification. In India, 90 percent of the population has been enrolled in the national biometric ID system; and in Shanghai it is used to buy metro tickets contactlessly⁴⁹. The value of Smart Cities is expected to almost double by the year 2026⁵⁰. As people increasingly move away from rural areas and as populations rise, smart cities are essential to the sustainability of the 21st century.

United Nations Involvement

The United Nations has been debating the need for sustainable development to take place within countries, both developing and developed, since the 1976 Conference on Human Settlements, also known as Habitat I. It was the first United Nations meeting to discuss the possible issues associated with rapid urbanization. Since then, two more of these conferences have taken place, being named Habitat II and Habitat III. The second and third Habitat occurred in 1996 and 2016 respectively. Habitat II focused on two specific issues relating to urban settlements: making sure there is adequate shelter for those that need it and the sustainable development of human settlements. Then, in 2016, the UN held their first conference on the sustainable development of humans since the 2030 SDGs were announced. Habitat III worked towards creating infrastructure designed to promote the joining of the goals of the national level of planning, and the local sectors as well. Habitat III, also began the implementation of the United Nations' Sustainable Development Goals and the Paris Climate Accords into the urbanization of settlements. The third Conference on Human Settlement also created A/RES/71/256, which established the New Urban Agenda, which standardized the qualifications for sustainable urbanization. The United Nations Economic Commission for Europe started the United Smart Cities (USC) program in 2016, to focus on the main aspects of urbanization and the goals to ensure their sustainability. The USC program focuses on the five main aspects of urban mobility: sustainable housing, clean energy, waste management, and the Information and Communication Technologies (ICT) implementation. The main goals, relating to each of the previously mentioned focus areas, include: (1) decreasing vulnerability of the people in locations where urban migration, changes in the demographic, environmental degradation, and climate change, (2) set goals for carbon footprint reductions, (3) enhance the quality of life for people living in cities needing sustainable urbanization, (4) improve the efficiency of cities focusing on their environmental impact, (5) and to establish public-private partnerships (PPPs). The USC program hopes to establish indicators of smart cities, based around the aforementioned goals and focuses, utilizing their Smart City Profiles. In 2012, the UN defined their Sustainable Development Goals (SDGs), with all 17 hoping to be accomplished by the year 2030. SDG 11 focuses on the sustainability of cities and communities. SDG 11 outlines the more specific goals that smart cities are designed to achieve. The inclusion of sustainable housing in the Sustainable Development Goals allows for the UN as a whole to put more emphasis on the importance of healthy urbanization, resulting in 30 conferences, and over 700 actions pertaining to this specific issue. SDG 11 outlines the 12 specific goals of sustainable cities, and provides indicators for how

well countries are executing their own goals. The SDGs, including SDG 11, were first brought into action by the passing of resolution 70/1. In September of 2015, this resolution was passed, bringing into focus, not only the goals of smart cities, but also 16 other goals pertaining to the UN. Additionally, resolution 68/239 identified October 31st as World Cities Day in order to promote smart cities as a whole, as well as the cooperation between states. Every year, a new theme is chosen to highlight a specific interest regarding the sustainable development of smart cities.

Case Study: Singapore and Autonomy

As of 2014, Singapore has been working to fulfill its Smart Nation initiative and by 2021 is the highest-ranked smart city on the IMD's inaugural Smart City Index. Singapore is a densely populated country; subsequently, they have focused on the creation of autonomous vehicles for transporting students and the elderly. This has resulted in a 92 percent decrease in overcrowding on older systems of public transport such as buses. Furthermore, the creation of the Travel Smart Programme has more evenly diffused people across different modes of travel during morning rush hours which encourages working from home and public transport alternatives such as biking. Singapore has also increased its use of artificial intelligence across the board in order to maintain its title of smartest city. Employing the AI for Everyone and AI for Industry initiatives helps Singapore to brace for the upcoming changes that come with the widespread implementation of AI, with widespread education on working with AI, promoting new jobs as automation becomes integral to workforces and society at large⁵¹. Singapore has the fastest growing elderly population in the world, and their focus on these people reflects their commitment to an integrated society. Singapore has attempted to centralize new cities around concentrations of older people, allowing them to be more included in day-to-day life, which in turn allows for the government to focus more on the biggest challenges of the elderly: loneliness, accidents at home, and accidents on the street. They have implemented wider sidewalks in certain places, made the walk signals on busier streets longer, so that they have more time to safely cross the road. They even have built smart homes for the elderly to live in, which incorporate sensors in the carpet that will alert first responders and family members in case a resident falls.

Singapore focuses heavily on its citizens' well-being and provides all citizens with free public housing, in order to create communities that foster population growth and sustainability⁵². By the end of 2021, Singapore is planning on the development of 42,000 homes in a new smart and eco-friendly district of the city called Tengah. The settlement which at one point was home to brick-making factories will now house electric vehicle chargers and roads, designed with self-driving vehicles in mind. Additionally, Singapore accounts for the skyrocketing amount of energy they use to cool their homes and has devised built-in cooling for their residents utilizing water which will have been cooler through solar energy. This aspect of the smart settlement alone is comparable to removing 45,000 cars from the road annually. Tengah also boasts a centralized trash collection system simply transporting garbage through several blocks of pneumatic systems in order to centralize in one location. Moreover, to ensure the residents are aware of their own impacts on the environment, each citizen will be able to use an app to monitor their own energy usage and that of their neighbors. The goal of the initiative is to start friendly competitiveness in the spirit of environmental change⁵³. As 81 percent of Singapore currently lives in public housing provided by the Housing and Development board, it is a front runner globally in terms of sustainable infrastructure⁵⁴. Singapore is also considered one of the

safest countries in the world, providing people-based healthcare projects such as Health City Novena, an entire city with the purpose of providing healthcare, and health services at an expedited rate to those who live near it. As mentioned above, Singapore puts an emphasis on their use of technologies to better the lives of their citizens, commonly utilizing the newest tech in their health care system, as well as the other aspects of the daily lives of citizens. One of the most notable being the move towards a no-cash environment, with 46 percent of all citizens utilizing primarily mobile payments. Just a year prior, Singapore had only 34 percent of the population paying through online methods⁵⁵. This jump is in part due to the government's investment in Application Programming Interfaces (APIs), which are systems that allow two or more applications to communicate with each other in order to share information necessary for the advancement of mobile banking and paying. One of the most valuable advances in technology for Singapore is SingPass. This program offers every resident a viable means of proving who they are, and connects them to over 1,700 separate services, both online and in person. Singpass allows its users to digitally sign documents, prove their identification, and much more^{56 57}. Recently, Singpass released a mobile application equipped with a two factor authentication (2FA), allowing for greater mobility with online payments and interactions with the government.

One of the biggest contributions that has allowed Singapore to become the flagship smart city is through the widespread adoption and proper utilization of PPPs. The collaboration between the private and public sectors of Singapore allows for the efficient flow of smart-city-ideas. Many of the current programs currently in practice originated in the private sector, were tested by the public, and then carried out by the agencies and offices of the local governments. Singapore is also unique in its method of approach when it comes to sustainably urbanizing its cities. It focuses not on the efficiency of its cities, but the quality of life of its citizens. By focusing on economic growth, human development, and quality of life, Singapore has been able to ensure a happy and productive populous, that works alongside the government to create a more efficient environment, as a byproduct⁵⁸. Another reason the smart city programs in Singapore have produced so much, is that they have a clear list of goals, and plans to achieve them. The five national projects aimed at turning Singapore into a smart city are: (1) National Digital Identify (NDI), (2) E-Payments, (3) Smart Nation Sensor Platform (SNSP), (4) Smart Urban Mobility, and (5) Moments of Life. Each of the plans mentioned above fall under one of these categories. For example, Singpass is a part of the NDI as well as the E-Payment plans. The NDI has been described by Prime Minister Lee Hsien as the “cornerstone of Singapore’s Smart Nation vision, and hopes to forge a common identity for users. E-Payments have been found beneficial to the economy, swiftness of transactions, cost of goods, and to the competitiveness of the economy as a whole. The SNSP combines sensors as well as the IoT to monitor the quality and quantity of things relating to the quality of life of citizens, such as amount of traffic and the purity of water. As mentioned above, urban mobility, both for the elderly and younger generations, is at the forefront of focus for the smart city program of the state. Moments of Life programs allow for interactions with the government, which occur regularly at important moments in life, such as marriage, purchasing a house, and giving birth, to be made easier for both parties involved⁵⁹.

Questions to Consider

1. How should nations manage security concerns among citizens as data is continually collected and shared?
2. How can smart cities be standardized?
3. What can countries do to educate citizens on changing daily routines in order to utilize the technology of the smart city?
4. How can countries ensure their transition to Smart Cities is ethical and sustainable despite massive building projects?
5. How can smart cities be constructed on a large scale yet avoid gentrification?
6. How should the international community address the potential dangers of widely integrating artificial intelligence?

Endnotes

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