SUSTAIN

ABILITY

EDITOR'S LETTER

As a student, my voice was sometimes unheard and undervalued in the world of adults. After I realized my incompetence to solve persisting problems worldwide as a teenager, I was quite hesitant to speak up and take bold actions. I believe that once in a while you also have been in a similar situation. Publishing this issue, I would like to make sure that our determination and passion to solve worldwide issues still exist inside us, even as teenagers. Some may be thinking of ways to solve those conflicts, some may be discussing those global problems with their peers, and some may be planning their own projects. I believe we are all, in the end, teenagers who strive to change the world in our positions.

This issue is dedicated to those who are determined to make an impact on their community.

Going through the targets of Goal #3 Good Health and & Well-being and Goal #11 Sustainable Cities and & Communities at first, we often realize that only governmental efforts and re-structurization will successfully achieve the goals. The targets do contain some macro-scale words like "universal access", "framework convention", and "regional and national development". However, approaching them from a different perspective may radically change your beliefs; governmental efforts are crucial, but individuals' impact cannot be underestimated.

With this in mind, our team has put much effort into seeing the world from a unique perspective and has endeavored to communicate their ideas in a relevant manner. This issue would walk you along the way, from entering the doors of Goal #3 and Goal #11 to inspiring you to take further action.

In the end, there is nothing more worthwhile than taking an attempt because this means that you have at least opened up your mind and started to look at the world from a novel point of view. Your attempt highlights yourself as a teenage agent of sustainability: the true, hidden stakeholder of the UN SDGs.

Our last issue of the 2020-21 academic year contains introductory comics, articles that not only point out the importance of governmental changes but also individual efforts, and special articles written by Social Counselor Ms. Brook Pauley and Principal Dr. Cinde Lock. In light of Goal #11, we also acknowledge the role of Jeju Haenyeos, Jeju's Intangible Cultural Heritage, as the key model of sustainable development.

As the editor and a leader, I am incredibly proud of our team who have worked tirelessly throughout the year to objectively communicate the UN SDGs from an unconventional perspective. I am also immensely grateful for our BHA community, including our supervisor Mr. James Kim, service coordinator Ms. Florence Wayas, Principal Dr. Cinde Lock, faculty members, and peers who have supported our team to accomplish our mission: "Nurture, Preserve, and Create Sustainability".

Editor, Seoyoon Kim

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GOAL #3

GOOD HEALTH AND WELL-BEING

The importance of health and well-being are particularly emphasized these days. The United Nations concentrates on "ensuring healthy lives and promoting well-being for all at all ages". Amid the pandemic of COVID-19, the gap between rich and poor has significantly affected the quality of life. Especially, some people who can afford regular health care and a healthy diet will maintain a balanced life, whereas others will suffer from unhygienic environments. Not surprisingly, one of the primary goals for Goal #3 is ending endemics, such as AIDS, tuberculosis, and malaria which affects 229 million people every year. The international community also endeavors to achieve universal health coverage through medicines and vaccines. In order to achieve Goal #3, the UN supports research and development for vaccines, as well as strives to expand access to affordable medicines. Other than disease-related issues, Goal #3 also targets to improve maternal health, reduce child mortality or suicide deaths, prevent substance abuse, and so on.

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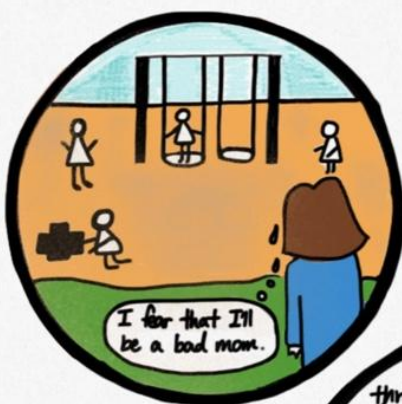
Welfare For People With Disabilities

| by Seoyoung Yoon

We are all born with equal rights: the right to be treated the same, the right to have access to adequate welfare, and the right to be valued. Accordingly, the world particularly pays attention to welfare facilities and policies for disabilities. From the past to the present, countries around the world have implemented various welfare policies for disabled people, mainly focusing on equal opportunities, protection of rights, and full participation.

Image source: [4]

Korea has adopted the 'UN Convention on the rights of disabled people' since 2008, and thus, executed a mandatory employment quota system in order to guarantee labor rights of disabilities; the total amount of the disabled employment contribution accumulated has been 1.2 trillion won. However, some point out that companies are not responsibly hiring people with disabilities and are paying a basic burden equivalent to 60% of the minimum wage, which means that the companies are not following the policies. Businesses and companies rarely admit the reason for not hiring people with disabilities, but it is evident that the main reason is fear— fear of potential unknown costs such as accommodation, fear of what effect a person with a disability would have on the workplace, and the fear of what might happen if the job doesn't work out.[2] Moreover, the Korea Employment Agency for the Disabled intends to spend the disabled employment contribution for operating expenses and labor costs instead of adequately providing the disabled employment contribution to the disabled. In conclusion, the Korean government's welfare policy for the disability is making efforts to comply with the UN Convention, but if we look closely, we realize that the Korean government is merely pretending. As in the case of other countries, Korea has the need for facilities to continuously monitor whether the convention is being properly implemented.[3]

Sweden, which ratified the same convention as Korea did in 2008, established an advisory committee for the disabled at the central and local administrative units, and supported them so that they could play a role as an important advisory partner of the government. The disability advisory committee provides advice on how we can support disabled people and in specific areas and businesses, by promoting rights and equality for them. In addition, for the mid-to-long term plan for the disabled policy, the government publishes an action report every year, and the advisory committee for the disabled monitors the measures and implementation status and submits the results to the government. As a result, disabled people in Sweden were not marginalized and could continue to live with the protection and care from the government.[3]

The United States has 12 well-known organizations solely dedicated to disabilities which "support organizations to recruit, retain and advance people with disabilities and build truly inclusive workplaces for all employees". For people who are deaf and blind, those organizations provide social services and rehabilitation delivery through ADARA, a partnership of national organizations. Individuals with physical and mental disabilities can be served by 'the Council of State Administrators of Vocational Rehabilitation', which is composed of the chief administrators of the public rehabilitation agencies. The US also has an organization called

Image source: [1]

Employer Assistance and Resource Network (EARN) which helps to recruit, hire, retain, and advance qualified individuals with disabilities by educating public- and private-sector organizations on ways to build inclusive workplace cultures. Such efforts dedicated to fostering a truly inclusive society for disabled people have reduced the fear of employers.[1]

Numerous countries around the world are continuously working hard in order to create a more accessible world for people with disabilities. Getting to know more about disabled people and giving them continuous attention will help improve the quality of their life. We, who live in the same society as the disabled, have the responsibility to respect them and make an effort to get rid of the perception that they are 'different'.

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Elderlies Living Wisely with Diabetes

| by Founder Seoyoon Kim

Health and well-being. These are the very two topics that we are always concerned about. Mankind puts considerable effort and time to figure out the best cure for a disease, the most effective way to proceed a surgery, how to maintain a healthy lifestyle, and so on. The list goes long until we encounter one topic: how to live wisely with a chronic disease. The word "live wisely" sounds an anomaly and it's hard to imagine how life actually looks unless we experience it. However, think of diabetes patients. They live with diabetes throughout their lifetime, and this has been no exception to my grandmother. Motivated from a very much personal concern, I have started my research on how to live wisely with diabetes.

Diabetes is "a disease in which the body cannot control the level of sugar in the blood[1]." As it is a chronic disease, diabetes is likely to affect the entire human body system and causes some complications to keep an eye on, for example, Coronary Artery Disease (CAD) and stroke. CAD and stroke are highly associated with elderlies' falling and stumbling which may induce some long-lasting negative impacts, including permanent damage to the brain; malfunctioning of the brain may cause problems in communication, seeing objects, and paralysis[2]. In fact, falls are a non-negligible cause of stroke-related mortalities[3]. Keen observation done by Chen, Ovbiagele, and Feng reveals that during the period of hospital admission, stroke patients experienced more falls than other patients. 14% of the 720 patients fell at least once and approximately 16% of them fell either two or more times. One might perceive the initial fall as a trivial accident. Note that such behavior is never to be taken. Falling twice means that they have doubled the risk of falling again and those who fell during their hospitalization period were actually more prone to falling after discharge[4]. Another research done by Forster and Young discloses a quite alarming fact. Elderlies who fell two or more times became lethargic, less socially inactive, and more depressed. They suggest the fear of another fall may have affected their lifestyle, which thus brings to light the usage of smart devices in the healthcare industry specifically catered for elderlies who live alone and live with diabetes[5].

Home monitoring smart devices accommodate the lives of patients especially when they live alone; it offers a much safer environment for elderly diabetes patients. Al-khafajiy, et al. claims the combination of modern-day technologies (wearable devices and home monitoring devices) with smartphone application enables a quality home-based health care service through enhanced management and precise supervision of senior patients[6]. For instance, "Cypress", a home monitoring device, takes advantage by incorporating Artificial Intelligence —"the use of computer programs that have some of the qualities of the human mind, such as the ability to understand language, recognize pictures, and learn from experience"— into their system[7]. With numerous algorithms working precisely, Cypress is able to recognize abnormal movements of elderlies which typically include sudden falls, wandering, and waving hands for help.

Image source: [12]

Not only does it offer such detections but also alarms of abnormal movements and comprehensive analysis of our loved ones. To elaborate, an extensive analysis shows a "real-time stick figure streaming" where actual bodies are converted into stick figures to ensure privacy; duration of lying, bending, standing, and sitting; heatmaps that show areas where elderlies fell down[8]. Though remote, caregivers and families can take care of elderlies' health by avoiding placing furniture in areas with a high frequency of falls and by two-way audio calls which allow to immediately check one's state of health. Even more, if the duration of staying listless remains long, families and caregivers can recommend some physical activities or outings in order to prevent future accidents related to CAD or stroke, the two most common complications of diabetes.
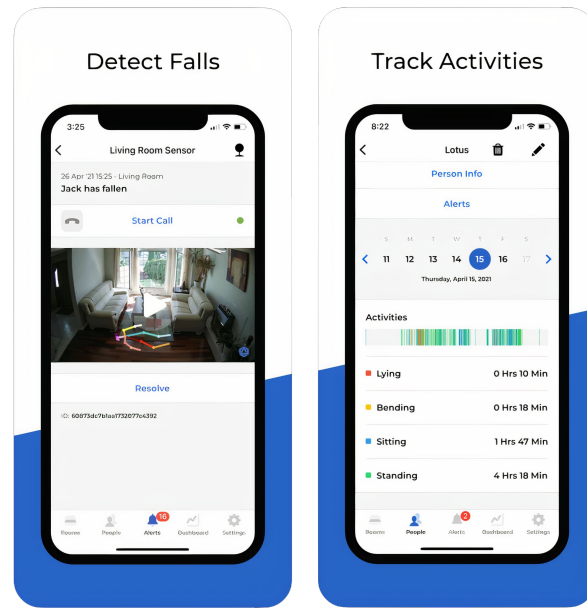
Image source: [13]

Besides offering peace of mind for elderlies themselves and caregivers, home monitoring smart devices are also a better choice in terms of financial burden. The American Diabetes Association recognizes that $1 in $7 is spent on diabetes and its complications. In effect, physician office visits account for 13% of the total financial expenditure[9]. This 13% can be reduced by actively using smart devices; transportation fares, employment costs of caregivers, and possible long hospital stays may be eliminated through keen monitor and detection that smart devices offer, sustaining a quality life even when suffering from chronic diseases[6][10][11]. Thus, individuals, as well as society would benefit from the integration of modern-day technologies into the current senior health care system with reduced financial burdens[6].

A simple usage of home monitoring smart devices may not be the definite, cutting-edge solution to significantly elevate life quality when living with chronic diseases. Nevertheless, it is still true that elderlies will feel much safer and beloved, while the community achieves in reducing financial burdens on health care. In the end, living well with chronic diseases such as diabetes is not impossible, and neither is it an anomaly. Keen attention and advancement in technology, the ultimate harmony between humankind and scientific development enable it.

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Different Keys for Achieving Well-Being

| by Sunmin Bae

For us to live a long and happy life, health is the main factor that we have to consider. UN SDGs, therefore, address this matter through its goal: Goal #3 Good health and Well-being. The goal ensures that people around the world can access their health care needs and stay well. To achieve this goal, countries practice varied health care systems, building it up as a single paying or universal health system. According to PLoS Medicine, while public healthcare is provided by the government for all citizens, private healthcare is defined as providing healthcare through for-profit hospitals and practitioners. With these two types of healthcare systems, countries decide to make those services either a 'Single-Pay' or 'Universal' program. 'Single-Pay' allows only people who can afford the payments of health services. The 'Universal' program does not, however, put financial burdens. With the federal, city government, and country's decision, each country or city develops its health care system[1]. Then, which system is considered to be the best key for achieving UN SDGs Goal #3?

Single-Paying Healthcare System

As most of us are aware, the United States is known for its single-paying healthcare system. Unlike other larger countries that have transitioned to a universal health program to manage their large population, the United States has maintained its private health insurance and single-payer healthcare system since the 1920s. Today, the United States health care is provided through a combination of private health insurance and public health coverage, such as Medicare and Medicaid. The private health insurance system follows the single-paying method; this means that citizens are required to pay their own money for services. As citizens pay for the healthcare they prefer, it is considered to offer high quality of services through modern equipment and highly qualified doctors. As the system gets controlled with a significant cycle of receiving an adequate amount of finance and having enough doctors and nurses, the healthcare processes are rated for being highly effective. The system provides more varied choices of curing methods and it is known for its highly- satisfactory support in service areas[2]. However, such a system is often criticized for high prices that are not affordable to some. This can lead to people not having access to their mandatory needs, leading to an unsuccessful accomplishment of UN SDGs Goal #3[3]. According to the Commonwealth fund, because of people who are unable to afford the cost multiple times, the rate of people visiting the doctors is not regular which hinders people from receiving critical health-related updates and appropriate healthcare as they rather choose to save money. This directly affects and increases the rate of people who fail to maintain their well-being[4]. Notwithstanding the problem and solely focusing on its quality of services, Investopedia suggests that the cost will continue to rise, leading to an increased rate of people who will not be able to maintain their well-being[5].

Universal Healthcare System

Comparable with the United States with the single-paying healthcare system, Korea is one of the countries practicing a universal healthcare system. South Korea has been chosen to be part of the most rapidly industrializing countries from APHA (American Public Health Association). Korea was able to successfully implement a universal public service in 12 years and has accomplished to provide insurance for every one of its citizens while taking into consideration one's income per family or individual [6]. The universal healthcare system in Korea is assessed from two different perspectives as well. Considering everyone's well-being and right to receive adequate healthcare, the cost of healthcare is significantly low. This leads to a large number of people desiring the service, but not being able to meet the large demands; the lack of doctors and nurses dwindles the quality and the speed of services [7]. According to a research article from PLOS ONE, it is shown that the long waiting time of patients visiting hospitals in South Korea is due to the large number of people who have visited [8]. These circumstances happen often in Korea; to solve this problem, hospitals divide patients into serious levels and work on finding nearby hospitals with fewer people through easy-accessible phone applications. Yet, the universal healthcare system of South Korea is praised among countries for its efforts to provide a standardized service to all [9].

Going back to the initial question that I asked at the start of this article, there is not a definite answer. Both countries have implemented a healthcare policy that best considers and suits their country's status and other regulations; this will be the same for other countries worldwide. However, one thing to take note of is, what kind of policies should the developing countries establish. The key here, as well, is devising a healthcare policy that is affordable, accessible, and sustainable to the country and people, and one that can enhance the well-being of people.

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Sustainability and Mental Health

| by Social Counselor Ms. Brook Pauley

Mental Health. Sustainability. These are two terms that you are familiar with, but have you ever thought about how they should work together? The United Nations created an ambitious set of Sustainable Development Goals, and Goal #3 addresses both of these things. Specifically, Goal #3 suggests "ensuring healthy lives and promoting well-being at all ages is essential to sustainable development."

As we begin to think about mental health and sustainability, I think it is most helpful to break down our world into distinct groups of people: Individuals, Local Communities and the Global Community. Mental health is something that needs to be addressed at every level, and I believe that good mental health starts with each person and the community they live in. Healthy people and communities can help shape a healthier world. However, for the sake of brevity, I will only address the individual and local community levels.

So what does it mean to be mentally healthy and how can we help our community to be healthy? It starts with looking out for your own mental health as well as those around you. We are social beings and mental health is truly a community effort.

There are many things you can do on the personal and community levels to maintain your mental health: regular exercise, healthy eating, maintaining healthy relationships, talking about your struggles with trusted people, using positive coping strategies for stress, getting enough sleep, avoiding excessive consumption of alcohol, challenging negative thoughts, and in some cases, talking to a therapist and/or taking medication. In addition, here are a few things you can do in the community or on your own:

1 **Practice gratitude.** One of my favorite quotes is "Gratitude helps you to see what is there instead of what isn't." Keep a gratitude journal and talk with other people about what you are grateful for. For a great example of how to start and maintain a gratitude journal, check out the Center for Greater Good at the University of California Berkeley: **Link 1**.

2 **Help others.** Maya Angelou said: "When we give cheerfully and accept gratefully, everyone is blessed." This article[Link 2] from the University Of Michigan mentions the value of volunteering and helping others in regard to mental health.

3 **Get in touch with your spiritual side.** This article[Link 3] from WebMD.com discusses the importance of spirituality on mental health. Spirituality looks different for everyone, whether it be through prayer, meditation, connecting with a group of like minded people or attending religious services. For more information on how spirituality affects mental health, check out **Link 4** and **Link 5**.

It is important to remember that good mental health is no accident. It takes work and effort to maintain it, so the methods you choose must be sustainable. You may want to set goals for yourself, but remember that your goals should be realistic and maintainable. My advice would be to start small: choose one or two goals and practice them consistently for a month. After the month is over, take some time to evaluate your progress and decide if you want to make changes or add additional practices.

So now that you have all these ideas, how can you use them in your community? I previously mentioned that you can do all of these things with others, and that is an excellent place to start. Beyond that, here are some other practical ideas for how to advocate for good mental health in your local community:

1 Consider working in a Psychology related field. The Covid-19 pandemic has put a spotlight on the need for good mental health care and also opened up doors for people to discuss mental health issues more openly.

2 Start a community group that promotes mental health awareness about specific issues, such as depression, anxiety, or eating disorders.

3 Identify mental health professionals in your community so you can refer anyone who may need help.

4 Promote healthy habits in your community. For example, start an exercise group, cook healthy meals with friends or raise awareness about the negative effects of alcohol abuse.

5 Become involved in local government to help make decisions about mental health programs and healthcare.

As mentioned before, it is very important to choose activities that are realistic and maintainable for you and your community. My door is always open to discuss any ideas you have. I look forward to seeing how you will take care of others and yourselves in the years to come.

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Links

Link 1

Link 2

Link 3

Link 4

Link 5

GOAL [#]11

SUSTAINABLE CITIES AND COMMUNITIES

As irregular natural disasters and fiercely rising temperatures appear more frequently than before, people are becoming much more aware of sustainability. In order to stay resilient despite adverse natural disasters and pollution, the international community aims to foster city environments and human settlements that are "inclusive, safe, resilient and sustainable". Moreover, Goal #11 acknowledges the significance of social problems arising in cities such as safety, housing, and transportation. One of the rising concerns is the sanitary and safety issue in slums, considering the fact that people living in unhygienic areas are susceptible to various diseases. To alleviate this problem, it is vital for all members of the international community to be aware of this goal.

Making Your House "Cool"

Eun-Byeol, Im. "Green architecture brings fresh air." *The Korea Herald*, 13 May 2021, www.koreaherald.com/view.php?ud=20210513000611. Accessed 16 May 2021.
Gwak, Changryeol. "한국의 옥상은 왜 모두 녹색이지?" ["Why Are All Korean Rooftops Green?"]. *Chosun News*, 30 Nov. 2013,
    www.chosun.com/site/data/html_dir/2013/11/29/2013112901847.html. Accessed 16 May 2021.
Image Source: "What is a Green Building?" *Conserve Energy Future*, www.conserve-energy-future.com/green-building.php. Accessed 16 May 2021.

Can We
FARM in Cities?

| by Minjae Shin

"Today's menu is Spaghetti and chicken nugget salad!"
As we follow these kids running to the cafeteria for lunch, we see students filling their dishes with colorful varieties of food, varying from gluten-containing meals to vegetables. Then, when we return home, we find our refrigerator full of food, bought from the supermarket right across the street. Clearly, food is naturally involved in our lives, indeed as a source essential for humans to survive. But where do these foods come from? Dring, the cofounder of Zero Carbon Food, suggests that many people are blind of where the foods originate from. "Some kids in London probably think spaghetti grows on trees," he says.[1]

Problem of Food Insecurity

Image source: [9]

Unfortunately, not all people around the world have access to enough food as we do. This state is defined as food insecurity, the condition of being unable to consistently consume food needed or wanted because of financial or other problems.

Population suffering from hunger has increased by 690 million people in 2019, 60 million more than that in 2014[4]. Malnutrition brings problems in health and life expectancy, such as stunted physical and mental capacities and growth of children[5]. Furthermore, with a considerable population experiencing food insecurity, the world population has also been constantly increasing, estimated to reach 9.9 billion in 2050[3]. Increased people worldwide implies more people to feed, requiring more quantities of food supplies to be produced.

Food insecurity actually may seem to be a problem for another, but it can happen to anybody, including people with stable financial situations. Even in the United States where people generally have access to food, 15% of the citizens suffer from food insecurity[9]. In fact, the major risks for food insecurity are actually natural disasters and climate change[5]. As people cannot control natural disasters like droughts, storms, floods, or earthquakes, it is important for people to find another method to effectively secure their food availability from uncontrollable and unpredictable influences.

An Innovative Strategy: Urban Farming

Urban farming, which basically means farming in cities, is an innovative method to feed the constantly increasing population in the cities.

One of the widely known benefits of urban farming is that urban people can gain more resilience in their food supplies by gaining more opportunities to participate in farming. Farming has been considered as "healing work" for citizens (for example, they join activities like "Weekend Farm (주말농장)" to flee the frustration caused from living in cities). Therefore, many critics have condemned their behavior as *romanticizing* nature, acting as if one knows a lot about nature and its beauty, but actually does not. The most significant benefit gained from farming is that urban people can understand farming in a realistic view: they learn how their food sources are produced and get to appreciate farmers' efforts. Also, direct connection with farming reduces the impact of natural calamities, the cause of food insecurity. Should the people be fully responsible and available to secure their *own* food supply, they would be able to avoid the lack of food sources caused by natural disasters happening in the country. From the nation's perspective, urban agriculture is beneficial because securing a certain amount of local food produced can reduce the detrimental impact resulting from the reluctance of importing food due to the awkward diplomatic relationships (one of the phenomena which can commonly happen among countries).

Urban farming also provides other advantages such as creating employment opportunities or protecting the surroundings environmentally and economically by reducing transportation costs.

Types of Urban Farming

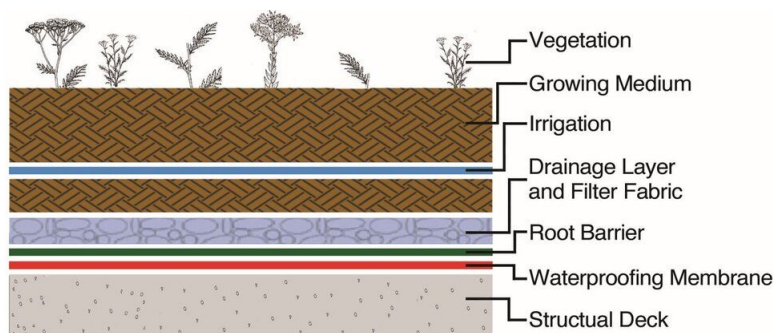## | Public Urban Farming

Green Roofs

Image source: [8]

A common concern with green roofs is how the plants settle down to the area where there is a structural deck beneath. To respond to this concern, there are several layers on the deck including drainage layers, filter, and growing media, so the plants are easily separated from the ground.

One clear benefit of the green roof is that though it is a method of urban farming, it gets natural precipitation for water supply. In summer, green roofs use 70~90% of the rain which falls on them[8].

Green roofs are beneficial in many other ways, including visual pleasure, improved air quality, and reducing the urban heat island effect where temperatures of urban areas are much higher than those of nearby rural areas. In fact, 10% of green space in cities could result in lowering the temperature by 4ºC, eventually reducing the soaring demands of air conditioning and greenhouse gas emissions[10].

| Private Urban Agriculture

Are you now demotivated because urban farming can only happen on huge scales? Urban farming can actually be done indoors, even at home! Many types of simple machines can simulate sunlight, humidity, and moisture outdoors. One of these interesting machines is aquaponics, where water in fish tanks is also used for growing plants. This system is beneficial for farming as it uses up 95% less water and makes it easier not to use chemical fertilizer.

Aquaponics machine. Leftover water from the plant goes back to the tank.[10]

Not only aquaponics, but myriad types of machines used at home often use the hydroponic system, a system that does not require dirt but only uses water for farming.

Conclusion

Urban farming was an uncommon term, often reminding people of backyard gardening. Therefore, many people living in busy cities without any yard could not afford to farm in their circumstances. However, as urban agriculture has risen up as an important technology to supply the increasing population, it has now become an activity that anyone can start and enjoy. Now, don't you want to keep a small farming machine to continue your convenient healthy diet?

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Can Cities Be Resilient?

| by Chaeyeon Ryou

We can often see articles dealing with urbanization and its problems—Most of us don't understand and realize the seriousness as we don't directly experience the problem. Unfortunately, problems are getting worse and coming closer to us. According to the Organisation for Economic Co-operation and Development (OECD), 1.4 million people move to cities every week; it predicts the urban population will rise up to 70%, which is 15% higher than these days. Due to the increasing population in urban areas, cities are suffering from waste management, frequent traffic jams , environmental aggravation, economic shocks, migration, and demographic shocks. Such phenomena may also extend to crime or discrimination. We, however, do not see the connection between these issues and the resilience of our community. "Although only occupying 2 percent of the land, cites are responsible for 70 percent of global Gross Domestic Product (GDP), green gas emissions (GHG), and global waste and over 60 percent of global waste and global energy consumption. (UN-Habitat, 2016). Currently, plenty of cities and communities are already undergoing the impact of natural and human challenges, such as conflicts between people and economic changes. Economic changes decrease the quality of one's life, government control, and political failures. Additionally, experts estimate that 220 million people are affected by natural disasters and it also damages $100 billion every year. Reflecting on the current situation, it seems impossible to meet the IPCC's recommendations to decrease the planet's temperature 1.5~2℃. Well, if we fail, we won't be able to avoid extreme climate change which will cost $300 billion to recover from the natural disasters and drive 77 million people to face poverty again. In order to handle these situations, people say cities need to become more resilient. What does it actually mean by 'resilient cities' and how can we make cities more resilient?[6]

Resilient cities are "prepared to absorb and recover from any shock or stress while maintaining its essential functions, structures, and identity as well as adapting and thriving in the face of continual change." The 4 significant factors that influence a cities' resilience are economy, governance, society, and environment.

Measuring city resilience

ECONOMY
GDP growth rate
Unemployment
No. of start-ups &business failures
Age & gender of:
• employed
• working population

SOCIETY
Migration age & gender
Poverty levels
Household income
Percentage of population living 500 metres from services

GOVERNANCE
Revenues by source
Number of:
• Community organisations
• Public sector officials
• Sub-national governments

ENVIRONMENT
Population density
Accessable green area level
• % Built up areas
• % brownfield sites
• % citizens near open space
• % new development near transit locations

Image source: [1]

1 Economy - there should be various types of industries that generate dynamic economic growth. Society should set up a condition for innovation to occur and allow residents to have access to employment, education, services and skills training.

2 Governance - They should have a leader with clear management and tactical and unified approaches. At the same time, the government itself should be open and transparent so that inhabitants can clearly observe their movement.

3 Society - society should be comprehensive and harmonized where citizens can actively interact with each other. Most importantly, safety between neighborhoods should also be guaranteed so that citizens can enjoy healthy lives.

4 Environment - the environment affects the resilience of the city. It should have a diverse ecosystem where natural resources are available and the infrastructure should satisfy the basic needs of citizens.[2]

The 4 factors do not fully explain why resilient cities are important. However, when the 4 significant factors are considered, we can establish a resilient community. When the 4 factors are considered in the process of community development, we can construct a resilient community and benefit the community members. The 4 factors are important and cannot be ignored because it is an essential foundation of building a resilient society; they are an indicator for urban planners and drivers of resilient cities. Setting a resilient city through these 4 factors becomes an extension of traditional readiness approaches through encouraging preparedness-building activities.[5] For instance, Norway's economy heavily depends on the petroleum industry. With this situation, Norway needed economic diversification and improvement, as well as innovation in entrepreneurship centered in Oslo. To strengthen Oslo's resilience of the economy, the government has gone through programs such as an online help service called "Oslo Start-up". To increase competitiveness, the Oslo Regional Alliance collaborated with 78 local neighboring authorities, and improved economic diversity and regional well-being. The alliance's awareness and action helped Norway to focus and develop on its digital economy and financial services to distribute the risk of failure and stabilize their economy.[3] Kobe, Japan, has faced challenges in urban redevelopment and improvement of resilience against natural disasters, naming their solution as "post-earthquake restoration and reconstruction." On January 17 1995, Kobe was struck by the Great Hanshin-Awaji earthquake which caused 4571 deaths. Earthquake's damage in the metropolitan area was severe and significantly affected the industry. To resolve this situation, the city focused on increasing the "city's overall resilience against future natural disasters": to reconstruct a city that is "safe, comfortable and disaster-proof". As a society, the Community development councils encourage collaborative engagement and citizens are welcomed to speak up when proposing redevelopments. Moreover, active volunteerism was fostered in the community with 759 registered non-profit organizations such as ones that focus on educational programs for raising awareness. In order to improve Kobe's environment, the city invested in infrastructure and developed innovative water reservoirs and water pipes to use as an emergency water supply in future natural disasters. This allowed Kobe to become "the leading model in disaster risk management" with long-term restoration projects for solidifying the city's resilience. Kobe's post-earthquake projects all have aimed to mitigate future damages from similar devastating natural disasters.[4]

Key preparatory activities including continuity of operational plans for organizations, reunification plans for families, and disaster kits and resource compilation are continuously essential and recommended. Most importantly, these approaches help us to build social connections and improve daily health, and well-being. In addition, community resilience is also connected to our health. The definition of health can be stated as physical, behavioural, social, and environmental health and well-being which is indeed a huge part of resilience. This shows us that health is a key to resilience as our preparation for disaster and protection of infrastructure is preserving human health and welfare.[6]

Community resilience cannot be built by oneself. Everyone in the community should be involved in the situation. We as individuals can contribute by being healthy and get socially connected, and be prepared to strengthen the community to withstand, manage, and recover from disasters. Living a healthy lifestyle and learning our own way to manage stress and maintaining connections and being engaged to communicate with families, neighbors and friends can be a start of contribution.[6]

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Humanity's Sustainable Model of Community:

The Culture of Jeju Haenyeo

Women Divers

| by Founder Seoyoon Kim

UN SDGs Goal #11. Sustainable Cities and Communities, Target 11.4 aims to "protect the world's cultural and natural heritage." In light of Target 11.4, this article provides insight into The Culture of Jeju Haenyeo (Women Divers), which has been inscribed on the UNESCO List of Intangible Cultural Heritage in 2016 for its long-held rich heritage[1].

Image source: [7]

Haenyeos are professional female underwater divers who harvest marine life. They hold their breath for approximately a minute, going as far as 10 meters, and work out in the sea for a maximum of seven hours a day without any aid of breathing apparatus. The unique sound they make after one breath is called "Sumbi-sori", a "technique and sign of acknowledging each other's presence[2]."

Gender Equality

"Haenyeos promote gender equality." In a historically male-dominant country, Haenyeos have been a prominent figure representing the women of Jeju. On an island with scarce resources other than the sea, women have taken the risk to dive in the sea, and harvested seafood necessary for maintaining their families' life. Not only as professional divers but also as women, Haenyeos have elevated their position by such financial contributions to their households. They had their voice heard and demonstrated the importance of the women's workforce[3].

Nature

"Haenyeos harmonize with the ecosystem." They regard nature more than the mere means of farming and harvesting; they regard nature as a subject of protection and coexistence. Their respectful attitudes towards nature have allowed them to acquire and inherit the knowledge of the sea. Such attitude has been passed down for generations and has remained in the heart of Haenyeos' culture. In effect, they set a prohibition period during the breeding season and keep themselves from harvesting young fish or shellfish[2].

Community & Unity

"Haenyeos possess the wisdom of how to maintain their community." Dae-sang-gun (대상군), the most respected Haenyeo, holds responsibility for the community by being in charge of its safety and unity. As of unity, the culture of Haenyeos cherishes a distinguished identity that roots from the dangerous nature of work they do: unity with a sense of common humanity[2]. Although having a hierarchical social structure, everyone's voice in the community is respected through free debates and discussions which may take longer than expected, however, in order to ensure every member agrees upon a common consent[4].

Unfortunately, the number of Haenyeos has been drastically decreasing since the 1970s[5]. However, the United Nations Educational, Scientific and Cultural Organization (UNESCO) firmly believes that the culture and community of Jeju Haenyeos truly exhibit the potential to be sustainably inherited and preserved through generations. In this regard, society and government should pay better attention and provide structured support to Jeju Haenyoes[6].

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Our Commitment to Sustainability at Branksome Hall Asia

| by Principal Dr. Cinde Lock

Bringing sustainability to life in our core curriculum and extracurricular programs is a very important aspect of what we do at Branksome Hall Asia. By definition, making a difference in the world means making changes over the long term that are sustainable and additive, and not symbolic or temporary. Thus, our core mission to develop our students as learners who make a real difference to shape a better world is really about focusing on living and progressing toward a sustainable future.

from Branksome Hall Asia homepage

Dr. Cinde Lock

Sustainability in the Core Curriculum

We are currently developing "Engagement units to help shape a better world." These units are focused on helping students learn how to live healthy, happy, and sustainable lives. Sustainability is also explored and reinforced in the core curriculum within our Design program. Over the years, the department has refined sustainable practices through the use of recycled and sustainable materials. For example, the use of plastics in the department has been very nearly eliminated. In our Design curriculum, about 90% of units taught from Grades 6 to 12 explore the notion of sustainability. For example, in Grade 6, students design and develop sustainable packaging solutions. In Grade 7 and 8 students conduct inquiries into ways to build sustainable housing from both economic and ecological perspectives and use robotic systems to conduct their investigations. By Grade 9 students evaluate the environmental and social impact of their decisions during the design process as they complete their classroom projects.

Learning about and applying concepts related to sustainability continues in Grade 10 as students combine technology with environmental science to develop micro greenhouses and use these to explore how sustainable food production can be integrated with smart farming technologies. In Grade 11 and 12, by comparison, students enrolled in Design Technology explore life cycle analysis and manufacturing systems to understand how companies measure the sustainable impacts of their designs within the context of government regulations and consumer pressure.

Currently, our Design department is supporting new smart farming projects within the core curriculum and through the delivery of the CASE extra-curricular program. A newly acquired technology, Farmbot, is being implemented that combines robotics, coding, and artificial intelligence. Our goal is to scale up this project in the near future in order to model sustainable food production within our school community.

Sustainability is also featured in our Interdisciplinary Units curriculum units. These units involve the development of ideas and the application of knowledge to solve real-world problems.

Service Learning and our Co-Curricular Programs

Human beings live interconnected lives. This means that we have the opportunity to effect positive changes in our local communities, whether that be in our school or with vulnerable members of our community such as the elderly, orphans, and abandoned animals.

Sustainability is a central learning theme that permeates through our CASE program such that all students receive relevant instructional and experiential opportunities that are grounded in theory and hands-on experience. Most of this work is guided by and focused on the United Nations Sustainable Development Goals. Many CASE activities are led by students who research and define solutions to real-world problems.

Our service-learning program is focused around five main areas that include activism, innovative technology in service, local community service, environmental protection, and international community service. A few of the initiatives we have in place at Branksome Hall Asia are described below.

Our girls demonstrate leadership and learning about environmental stewardship in activities such as the MOBA organization that was formed to help sustain the oceans and to raise awareness of the effects of microplastics and toxic chemicals on marine life.
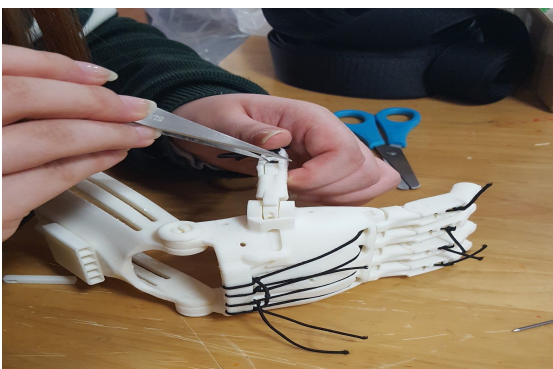
The "Enabling the Future" club is a student-led service group that produces prosthetic hands, using 3D printing, for children in need due to war, crisis, and national disaster as part of the worldwide organization "Enabling the Future." This project was so successful that our students acquired a US patent in connection with this initiative!

The Greensome Hall Asia initiative was established by our students who are very passionate about making our school into an eco-school. In particular, they have chosen to focus on eliminating single-use plastic, reducing food waste, and improving our school site. The team has raised awareness about the plastic issue on campus by producing a piece of protest art made out of the cups used in a week. They have followed this by campaigning for changes in school policy regarding the use of single-use plastic in the school cafe and negotiating a deal with our catering services company to promote the use of reusable mugs.

The SWAP (Student Wild Animal Protectors) organization involves students researching aspects of animal rights and animal protectionism within our campus and in local Jeju communities. This group has planned and carried out different forms of voluntary work to promote the protection of animals.

The Paradigm Club was set up by a group of our students "To convert non-daily Engineering to Daily Engineering based on literary understanding and a love for humanity." The group focused on designing and building an RF security necklace for women in remote areas of Nepal, then carried out a service project to Nepal. The Paradigm club is currently working on designing and then, hopefully, building a recycling center in Philippolis, South Africa, which will clean up the environment and provide sustainable jobs for the families.

Our students demonstrate commitment and measurable achievements in grounding their sustainable service work. Indeed, in January of 2021, the student-led Paradigm Club won the International School "Community Initiative" Award for the work they are doing to help transform communities for the better. Ultimately, it is our girls as learners and leaders who carry opportunities to model sustainability into action in the classroom and into the world beyond the classroom.

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Not necessarily in Alphabetical order; the numbering system is to help you find the references from the article.

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