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South Korea, Pollution

Polluted Peninsula: Pollution in South Korea

South Korea's population is 51,418,097. About 81.5% of the country is urban with the remaining 18.5% being either rural or forest. The capital, Seoul, is the most populated with about 9,963,000 people. Other populated cities in South Korea are Busan, Incheon, and Daegu. (Central Intelligence Agency. "The World Factbook: Korea, South." *Central Intelligence Agency*, Central Intelligence Agency, 1 Feb. 2018). The government system used in South Korea is a presidential republic. The current president of South Korea is named Moon Jae-in (문재인) and he has been in office since May 10 of 2017. The governmental system used is similar to the United States in a way that they have a judicial, executive, and legislative branch, as well as different political positions.

Around 18.6% of South Korea is used for agricultural purposes. Rice is the top exported crop along with root crops, barley, vegetables, fruit, cattle, pigs, chickens, milk, eggs, and fish. (Central Intelligence Agency. "The World Factbook: Korea, South." *Central Intelligence Agency*, Central Intelligence Agency, 1 Feb. 2018) The average farm size in South Korea is 1.2 hectares. This is around three acres. One acre could be compared to one football field. So three acres would be about the size of three football fields. The climate in South Korea varies depending on the season it is in. The winters are long and dry, and the summers are hot and humid. The average temperature in the capital city of Seoul for winter is -5 degrees Celsius to -2.5° Celsius (23°- 27,5° Fahrenheit), and a summer average of around 22.5° C to 25° C (71°- 75° Fahrenheit) (World Weather and Climate Information. "Climate and Average Weather in South Korea." *Climate and Average Weather in South Korea*, 2019). South Korea is located in Eastern Asia on what is known as the Korean Peninsula. It shares this peninsula with its northern neighbor, North Korea.

The average household size in South Korea is 2.9. Unlike here in America, South Koreans prefer living closer together versus the spaced out, suburban living that is normally desired. A majority of residents, about 53.8%, stay in a single unit home, detached or attached. The next largest group, 36.4%, stays in buildings with 5 more than units in them. ("Types of Housing in Korea." *HOUSEKOREA*, 11 Feb. 2016.) Houses are a more expensive option so many Koreans go for apartments. Apartments themselves have many different types. These include a villa, officitel, a studio apartment, and a goshiwon (고시원).

A South Korean diet differs heavily from what is normal for Americans. Like many other Asian cultures, rice is a base of many meals. In addition to rice, there is a list of other contributing factors to the difference. Kimchi (김치) is a popular side dish for many Korean meals. It is made up of fresh or fermented, seasoned vegetables. Some other major foods include fish, soy, and barbecued meats. (Corleone, Jill. "The Korean Diet vs. the American Diet." *LIVESTRONG.COM*, Leaf Group, 17 Aug. 2014) South Koreans either go to supermarkets or go to restaurants for food. Food in Korea is pretty much prepared the same way. Food is usually boiled or steamed as opposed to frying, however when families do fry food, they use a little bit of sesame oil because of their low-fat diet.

There is a long list of careers available in Korea from waiter to company executive and each of these careers has a different salary. The average pay in South Korea is around 35,000 to 45,000 USD. (Teleport. "Seoul." *Teleport Cities*, Teleport, 30 Mar. 2017) This is equivalent to ₩33,629,250 to ₩50,443,875, the South Korean currency. South Korea has both a private and public school system. The school system is split into three categories, primary school, which is six years, middle school, which is three years, and high school which is also three years. Just like here in America, their school system is split into two semesters. (Asian Society. "South Korean Education." *Asia Society*, 2018) Korean students typically start school at eight o'clock in the morning and end at four or four-thirty. Many students go back to school after a snack break, to go to tutoring until times from ten o'clock at night to twelve o'clock in the morning. Even though students have such a heavy schedule they do have winter and summer breaks.

Healthcare is free to all Korean citizens and the health insurance covers about 97% of South Koreans. (LaingBuisson International Limited. "Healthcare in South Korea." *The Healthcare System in South Korea*, 4 Nov. 2013) A majority of South Korea's population is urban. In these cities spread throughout Korea clean water, toilets, electricity, telephones, roads and local markets are available. Even rural areas have a high percentage of sanitation and clean water access. 100% of Koreans who live in rural areas have sanitation available to them. About 88% has access to clean water. (Central Intelligence Agency. "The World Factbook: Korea, South." *Central Intelligence Agency*, Central Intelligence Agency, 1 Feb. 2018) As far as major barriers such as poverty on the working class, there are not very many things keeping back people for earning money and getting food. However, it has been shown that work for adults and school for students causes major stress.

The topic that I decided to do relating to my country of choice was pollution. Currently, in South Korea, pollution has become a major concern. The important thing to note, however, is that it is believed that this pollution is coming from China. Fine dust and thick smog have been covering a handful of Asian countries and this dust and smog have the possibility to cause very severe health problems. These include lung cancer, bronchial asthma, cardio cerebral vascular diseases, pulmonary mortality, atherosclerosis, coronary heart disease, birth defects, and premature death. (Kang, Dongmug, and Jong-Eun Kim. "Fine, Ultrafine, and Yellow Dust: Emerging Health Problems in Korea." *ncbi.nlm.nih.gov*, US National Library of Medicine, 25 Apr. 2014) The pollution problem has caused minor conflicts between South Korea and China. The main issue was how responsible China was for the pollution in South Korea.

As of January 16, 2019, the fine dust level in South Korea has an average of 115 micrograms per meter every day. Fine dust is composed of nitrates, black carbon, and mineral dust. The normal average for a large city is 25 micrograms per meter. (Gibson, Jenna. "South Korea Once Again Choked by Dangerous Smog." *The Diplomat*, The Diplomat, 16 Jan. 2019) That means that South Korea is experiencing fine dust levels 4.5 times the normal levels. Fine dust can cause many different issues within the human body. These microscopic particles can cause less severe problems like itchy eyes, but it also can cause heart disease and respiratory disease.

The pollution is caused by a number of factors, but one of the main reasons Koreans seem to cite is their neighbor China. China has had a pollution problem for years and recently the dust and smog have traveled southward into other countries including South Korea. It is estimated that about 80% of the pollution found in South Korea had traveled from China through the air. (Volodzko, David Josef. "Why South Korea Needs to Fix Its Own Polluting Ways." *South China Morning Post*, South China Morning Post, 28 Apr. 2017). To combat the pollution, in 2018 South Korea had started to use drones to catch people who illegally incinerate things, the hope is that this cuts down on excess pollution caused in Korea. The state

of South Korea's air hasn't made any drastic changes. The industrial state of Korea and its surrounding countries creates pollution, and the wind carries the toxins around. Different weather currents also have the ability to have them circle around in one space. The rural and urban populations are pretty much affected the same.

The only major difference is that people in rural areas don't have immediate access to the tools and medical supplies people in the city have. Though everyone can be negatively affected by the fine dust and smog, the elderly and children have the possibility to be affected more. The elderly have weaker immune systems and aren't as able to fight off problems. Children have a similar problem, but instead of a weakened immune system, a child's immune system isn't fully developed. This makes them more susceptible to catching illnesses and diseases from the toxins.

Pollution is an all-inclusive issue that affects anyone in its path. Most places that have at least some industrialization will have polluted air. Everyone can get sick if they are exposed to it for long enough. Pollution is something that affects many different people in many different places. There are different types of pollution, but the type of pollution in South Korea is experiencing is air pollution. Air pollution causes the breakdown of Earth's ozone layer, climate change, rising sea levels, and extends the pollen season. The ozone layer acts as a shield to protect Earth's surface from the sun's harmful ultraviolet radiation. With a weakening of this shield, we would be more susceptible to skin cancer, cataracts and impaired immune systems. ("Ozone: What Is It, and Why Do We Care about It?" Edited by Shelley Canright, NASA, Earth Observatory, 10 Apr. 2009). Climate change is one of the main causes of rising sea levels, which in itself can cause many problems. These include contamination of drinking water, destroy farm land, and potentially decimate buildings and structures that may be housed on the coast. All of these would require large amounts of money to repair, leading to damage in the economy. These are just a few of the effects pollution has on our planet and environment.

Three possible solutions for the pollution problem could be to implement more environment-friendly methods of getting energy, have China and South Korea limit fossil fuel use until levels decrease, or to develop large purification systems that are to place in all the major cities and a few smaller ones. In using different methods of energy not as many fossil fuels will be used this will allow time for the pollutants like fine dust to settle down. The negative of this would be that it would cost quite a bit of money to change over businesses to these methods. Not to mention the homes and transportation that would also need to be more eco-friendly.

If China and South Korea were to meet to discuss plans on how they can work together on limiting fossil fuel use not only would this slowly resolve the pollution problem but also in a way build better relations between the two nations. Going this route would take a while to plan and has the possibility of conflict, but if the plan works well, then Korea wouldn't have to work alone and they can get rid of one thing that possibly is causing the pollution.

Lastly, with the new invention, this would be difficult and take a while due to the development time and research needs to be done. Not only with this be time-consuming, but also very costly. Scientist, engineers, technology companies, and a list of others would have to be paid to keep this project going, and if profits were going to be made, the cost of the machines themselves would be high. This is not providing every area in the country with an equal opportunity for clean air.

Solutions one and two would be the most beneficial to all the South Korean citizens. Solution one would be a great alternative and easy to sustain, but it's not the most affordable, especially to put the equipment on large companies. However, option two would be affordable for all classes and make sure there is peace between the People's Republic of China and the Republic of Korea. The third choice would be ideal but the cost of this project would be high and not all of South Korea would be able to afford the technology there. As far as cost-effectiveness and how easy it would be to do, I would suggest that both nations cut down the use of fossil fuels until they see a significant drop in the level of pollution.

It would require firstly that both parties are on board with the plan. Then planning would be a rigorous process because of all of the rescheduling that would have to go on within the counties. The planning in itself could take months, and potentially years depending on the preplanned things already in place. What they should focus on most are the things that cause the most pollution in their respective counties.

The governments would ultimately be the ones who decided what goes on in this project, meaning that they would be in charge of how everything is worked out. It would be favorable if The United Nations watches over their conversation to ensure that it remains peaceful, because of the history that these countries have. Due to the fact that this is a nationwide issue, this would be backed by the Korean and Chinese government. The finances would more than likely go towards the cost of making the arrangements and changing plans if there are any to change.

The community would have to participate in the limit and be sure to abide by the policies set by the government. The government would be the one who schedules and plans the scheduling, penalties and making sure that everything runs smoothly on their ends of the agreement. There would need to be strict policies enforced on manufacturers and companies that excessively fossil fuels. Without these restrictions, there is nothing to stop those contributing to issue the most. Fines would more than likely effective for those who don't follow the rules. If these don't work, the government could possibly threaten to close or shut down the company depending on its importance to their society.

There is a list of norms that would need to consider when developing this plan. Both nations are manufacturers of a wide variety of goods. When limiting the use of fossil fuels you are also limiting the rate of production in factories. There could be scheduled time periods in which the nations agree to cut down their fossil fuel use. For example, using trains for the transportation of goods. These trains could have certain times in a month to run. The schedule would be fixed and not change unless new factors come up. This solution, though it is time-consuming and requires a lot of planning, as well as cooperation, it will be able to work out with proper planning and willingness to continue the program.

Solving the Korean pollution problem would keep not only the local's health, but it would be a step into reducing the pollution that is being spread globally. If this could be done in one country, it could show the world that it is possible to fight pollution in our modern society. Innovation and teamwork are the only things needed to succeed.

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