

COURSE WORK COMPILATION

Culture, Environment and Technology of India

Spring Semester 2020

Language: English

(All the classes were conducted online)

India Japan Laboratory

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KEIO UNIVERSITY



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SESSION SUMMARIES

Session 1: 5th May 2020 (Orientation)

Course Overview by Prof. Rajib Shaw, Keio University

- In the beginning of the first session, Prof. Rajib Shaw provided an overview of the course to all students, and briefly explained about the overall course structure, credit requirements, etc. Thereafter, a video showcasing the existing bilateral bond between India and Japan was shown to the students.
- The students were also briefed about the group assignments to be submitted by the end of course, for which the entire class was divided into twenty groups of 6-7 students each.
- Towards the end of session, the keynote speakers for the next few classes were briefly introduced to the students.

India Japan Special Strategic & Global Partnership by Mr. Raj Srivastava, Deputy Chief of Mission, Embassy of India in Japan

- The presentation mainly emphasized on the current and future potential of India-Japan relationships, specifically in five key sectors of healthcare, agriculture and food processing, digitalization of the economy, infrastructure, and startups.
- Referring to a specific healthcare program of Ayushman Bharat in India, potential pathways for healthcare cooperation between India and Japan were discussed.
- In reference to the Japan PM Abe's Society 5.0 & Industry 4.0 initiatives and the India PM Modi's Digital India & Start-up India & Smart City, new trends and opportunities in India Japan digital partnership were explained, and the key entry points were underlined.
- The India Japan collaboration potential for several other key areas like agriculture and food processing, infrastructure development, clean energy, education etc. were also underlined.

Session 2: 12th May 2020

India: Land of Innovation and Opportunities by Mr. Takuro Takeuchi, Senior Director, South Asia Dept., Japan International Cooperation Agency – JICA

- The presentation was divided into three key chapters namely: Chapter 1: World: Unprecedented fundamental changes underway; Chapter 2: India Driving force of the changes and land of innovation, and Chapter 3: Japan: Future relationship with India.
- The first chapter focused on four mega-trends engulfing the world: (1) the power shift to emerging economies, (2) urbanization, (3) the explosion of the middle class, and (4) technological revolution.
- In the second chapter, Mr. Takeuchi emphasized the growth opportunities in India coupled with the technological revolution currently taking place. Simultaneously, the current social issues in India including the poverty, malnutrition, and air pollution, were also highlighted.
- The presentation then moved onto discuss about Japan's disruptive innovation that took the world by storm in the late 1990s, and how it can be employed for revitalizing the Indian economy and addressing the wide-ranging societal problems.
- The session ended with a small outlook on how Japan and India are likely to be intertwined in the near future and the potential that the Indian economy possesses for Japan.

Session 3: 19th May 2020

India: View from Internet by Prof. Jun Murai, Keio University

- Prof. Murai, more commonly known as the father of the internet in Japan, started off the session with his experience watching the concept of an interconnected web grow from just a few computers to something that has now become essential worldwide. The key pillars of internet, web and service platform were discussed to explain the modern infrastructure.
- Prof. Murai then talked about the internet as a global space with a multitude of cultures, languages, laws, police and nations and the opportunities and threats associated with each.
- The aspect of internet was also discussed in reference to the geo topology factors like arctic ocean ice, COVID-19, Brexit, Arctic etc.
- Consequently, India's role in the growth of the internet between the years 2000 and 2020 was discussed. With the huge population and mobile penetration, there is a huge potential for India to become a pioneer in the ever-growing internet.
- Referring to the current 40.6% penetration rate in 2020, India has a long way to go in providing access to the internet to all of its population.
- Prof. Murai also shared their experience of an Indo-Japan project in constructing an information network for natural disaster mitigation and recovery to showcase the unusual but critical role that the internet could play in various aspects of life.

Session 4: 26th May 2020

Indian IT Industry and Innovation by Mr. Yukio Takeyari, Chair, NASSCOM Japan Council; Former Managing Director, Sony India Software Centre Pvt. Ltd.

- At the beginning, a brief overview of India was provided followed by the Indian IT-BPM revenues, and major software companies.
- Thereafter, a brief introduction to Bangalore city was provided, before explaining its significance as an ideal starting point for large technology companies from around the world to establish a base in India. The circumstances and the context (HC, sales, customers) under which Bengaluru became India's Information Technology hub was also explained.
- A case study on India's 2nd largest technology company 'Infosys' was presented showcasing Infosys' Global Education Center at Mysore.
- The diverse range of IT companies currently functioning under the R&D center (Google, Amazon, Samsung etc.) and technology park in Bangalore were also discussed.
- The focus then shifted from large companies to startups. India's 24 unicorns (companies valued at over 1 billion USD) were brought into the spotlight and a few were discussed.
- The final part of the presentation revolved around the idea of "reverse innovation" in India - the strategy to develop products in emerging markets and expand them globally.
- The key examples of the Narayana Health Hospital, Aadhaar card, Digital India and India Stack, were also discussed for reference to students.
- By the end of the presentation, the students had a large variety of questions ranging from the start-up ecosystem in India to the meaning of the word "Jugaad".

Session 5: 2nd June 2020

Shallow and Narrow Introduction of Life in India by Dr. Kotaro Kataoka, Associate Professor, Indian Institute of Technology Hyderabad

- Dr. Kataoka gave an insightful overview into his life in Hyderabad covering a range of cultural topics like food habits, languages, and even an analysis of the difference between a “yes” in Japan and one in India.
- The presentation then talked about the highly debated currency ‘Demonetization’ in India. Dr. Kataoka argued that demonetization provided the much-needed push that the digital economy needed in order to start moving, providing examples of cashless wallets, UPI and other electronic medical record technologies.

Indian Math and Science by Prof. Rodney Van Meter, Keio University

- Next, Professor Rod Van Meter gave a short presentation on the impact of Indian scientists and mathematicians in different fields throughout the history. These included Srinivas Ramanujan, Subrahmanyan Chandrasekhar and Umesh Vazirani.

Emerging Technology trends by Prof. Kazuto Ataka, Keio University

- Lastly, Prof. Kazuto Ataka talked about the development of human societies and the key technology trends. A major point of this presentation was the increasing average age in developed economies and how the developing economies have the solution for this.

Session 6: 9th June 2020

The current situations, issues, and Developments on YOGA in JAPAN by Mr. Kazuaki Ohashi, Representative Director, The Yoga Organization of Japan

- Mr. Ohashi started off the session by setting the context of Yoga within Indian history by quoting religious scriptures such as the Bhagwat Geeta.
- Thereafter, the 5000 years old history of Yoga was explained in reference to different periods of Indus Civilization, Vedic periods, Upanishads etc.
- The definition of yoga and its different kinds were explained followed by the Japanese yoga history and connection with Buddhism.
- The key activities of The Yoga Organization of Japan were also briefed to the students including the Yoga Market research 2017, and coordination with Kanagawa government activities. Further, pictures from several yoga events conducted in Japan were shown to the students like with the Parliamentary league, in Buddhism temples of Kyoto, with Japan self-defense forces, Tokyo Skytree, Keio University, Waseda University etc.
- The prevalence of Yoga has been apparent in Japan in all aspects of society including sports, government, defense, beauty pageants, and even for stress management.
- In the last 30 minutes of the session, a practical Yoga lesson was provided by Ms. Akiko Kato (Part-time Yoga Lecturer). Some simple Yoga exercises were demonstrated for the students to practice. The students participated enthusiastically in the yoga sessions, by even turning their cameras on and requesting Ms. Kato to critique their movements.

Session 7: 16th June 2020

Fascinating & Attractiveness of YOGA: Make both your mind and body flexible by Mr. Kazuaki Ohashi, Representative Director, The Yoga Organization of Japan

- In the beginning, the various effects of Yoga on sports were explained like on body flexibility, breathing, balance and composure, and physical building. Thereafter, several examples were provided from different sports (Sumo, Rugby, football etc.) to explain how Yoga had benefitted sportsman in different ways.
- This was followed by the effects of yoga on human body in terms of stress, breathing etc. Specific impacts on various organs like lungs, intestines, nose, and brain were explained.
- Several biological process like Homeostasis were also discussed to explain the precise connections of yoga with human body, and its role in making the mind and body flexible.
- There was also a short discussion on Bacteria therapy (focused on Lactobacillus Reuteri), wherein it was pointed that human body comprises of 500 trillion bacteria, and each bacteria plays a unique role for the body to function healthy and in a stable manner.
- In the last 30 minutes of the session, Ms. Akiko Kato (Part-time Yoga Lecturer) conducted a yoga session again and demonstrated some basic poses like Triangle, Warrior II, Crescent lunge, Forward fold, Tree, Chair, Bound Angle, Seated Twist, Cow Face etc.

Session 8: 23rd June 2020

Musics of India by Dr. Patrick Savage, Keio University

- In the beginning of session, Dr. Patrick Savage provided a brief overview of the Comp Music lab in Keio University SFC, which was followed by some of its recent work.
- In reference to the history and culture of India, Dr. Patrick Savage then comprehensively talked about the Indian Musics.
- The comparisons within Indian Musics were explained based on classical instruments, scales/nodes and ragas/talas. The strong cross-cultural influence of western music was also presented. This was followed by a short break-out session for the students to discuss amongst themselves.
- Thereafter, Hideo Daikoku, a fourth-year in the Computational Music Lab presented a quick slideshow on the listening and streaming habits of Indian consumers with data from Spotify. He also explained a key difference between Indian and western music: most streamed songs in India are part of movie soundtracks rather than solo albums.
- Next, Mr. Eiji Murata and Mr. Minoru Kitamura from Yamaha gave an insight into the instrument industry by showcasing their India-specific products and the inspiration behind them. The lecture ended with a Q&A session where the students participated keenly.

Session 9: 30th June 2020

Disaster Risk Reduction in India: A few glimpses by Prof. Rajib Shaw, Keio University

- The session started with a brief explanation on the evolution of disaster management field globally and in India, followed by the complex hazard profile of India.
- The discussion then moved towards the Disaster Management Act of 2005 in India, and the Institutional structures set up for disaster management at various governance levels in India (National, State, District etc.).
- In reference to the four priorities set by Sendai Framework of Disaster Risk Reduction, Prof. Shaw discussed four specific examples from different parts of India.
- The first case was based on Understanding Climate Disaster Risk in coastal city of Chennai. The second case was on urban risk governance in the city of Mumbai. The third case was from the state of Orissa, in context of investment in disaster risk reduction. The fourth and last case was from Gujarat, that explained the principles of build back better.
- Professor Shaw emphasised on the need for a synergy between different organizations including the local government, NGOs, academia, and communities themselves, in order to achieve an optimal disaster resilience in any city.
- Towards the end, possible future directions for disaster risk reduction practices in India were underlined. These were met with a multitude of questions regarding the diverse set of solutions required for the entirety of India.

Session 10: 7th July 2020

Indian PM Modi's Risk Management by Mr. Hiromi Hirose, Ex Bureau Chief of NHK Delhi Office

- After a brief self-introduction, Mr. Hiromi began the session with a small quiz on Prime Minister Modi aiming to highlight his key governance policies.
- Mr. Hiromi set three goals for the students as: 1) To acquire useful knowledge, 2) To learn from field journalist, 3) To set their own question.
- After a precise introduction to PM Modi, the presentation then moved to PM Modi's "Gujarat Model" and its implementation all over India through different crises faced by the Modi government including the current COVID-19 pandemic.
- Mr. Hirose argued that natural disasters are inexplicably linked with political systems and that political parties can make or break their message to their constituents just by their response to natural disasters.
- Mr. Hirose claimed that the "Gujarat Model" was hugely successful in dealing with various natural disasters before and even had been extended nationwide to deal with the current COVID-19 crisis.
- The tone of the presentation then changed from India to Indians in Japan. A major focus of this segment was Mr. Yogendra Puranik, the first person of Indian-origin to become a city councilor in 2019. The students were shown a video of his story.
- Mr. Hirose also explained the Indian migration to Japan starting from 1858, and major events that increased/reduced the number of Indians settling in Japan.

**STUDENT
ASSIGNMENTS
(Group Reports)**

Culture, Environment and Technology of India

Theme Area	Yoga		
Title	<i>Yoga as a Means to Promote Community Health and Bonding</i>		
Group Number - 1	Number of Students - 6		
Mutsuki Umezawa (71801433)	Shohei Ito (71900764)	Yutsuki Takahashi (72005306)	Daichi Ando (71600179)
Kohki Matsuura (72047426)	Shafira Ayu Ramadhani (71775292)		

1. Theme Background

Yoga, derived from the Sanskrit word "yuj" (the yoke that connects a cow or a horse to a car), originated in the Indus civilization around 4000-2000 B.C. as a practice of connecting the body, mind, and soul to God (or the universe).

Around the year 200, the Yoga Sutra, the oldest fundamental scripture of yoga, was compiled, and the specific practices were described. According to the "Yoga Sutra," yoga is defined as "the suppression of the movement of the mind, to free us from suffering through various disciplines of control.

Today, yoga has become a popular diet and health practice, but its original purpose is to free the mind from suffering, which means to create a comfortable and stable mind.

We believe Yoga, which gives time to reflect and relax, is the best exercise for busy, stressed-out people today because it only takes up one piece of space. It can also be said that it is more than just an exercise, but it is an exploration of the spirit of yoga and the connection between mind, body and nature.

2. Key Societal Challenges

What we would like to introduce as "Key societal challenges of yoga" is mental health and well-being for people.

Nowadays, we are facing many kinds of stress in various ways, including family, schools, company, and society. For example, speaking of children, they are unintentionally facing various kinds of stress because their parents likely have so much expectation on them and children feel like they have to perform well as expected. Another, it is said that according to globalization that we're developing, children are exposed to global standards worldwide and they rather try to meet what's expected by other organizations than speculating their own ways of mental development.

And the crucial fact is that yoga can help them about it. As we learned from earlier classes, yoga provides us with stable mind and it also generates less stress, thus it comes to be possible for us to have less mental and physical diseases like anxiety, hypertension, depression, and so on.

Therefore, if yoga promoted, our both mental and physical health get better as well, thus we can expect higher quality of life.

3. Key Social Innovation Idea

To solve above challenges, we would like to introduce a social network service, which is dedicated for YOGA. Basically, you can share your Yoga video on this SNS platform, and not only that, you can also comment on others uploads, tag people and so on. And there will be professional Yoga coaches, giving you some advises.

Some might say you can find people sharing their Yoga videos on social medias such as Youtube and TikTok. But with this service, you can make your videos while you watch your coaches' videos, without the hassle of having to set your camera and edit your footages. Thus, it is easier to share.

We don't want to run ads because we want users to focus on Yoga and enjoy it stressfully. But how we monetize? We will offer paid personal coach lessons for those who want them. There are so many Yoga workshops around the world and many of those seem to have problems with attracting customers. This service will also provide Yoga teachers with an excellent platform to let people know how they giving lessons. Hopefully this service will help users with enjoying doing Yoga and having healthier lives.

3.1. Practical Implementation

To implement our idea of promoting community health and community bonding, one idea that seemed feasible was to hold community yoga in a nearby park. People in the same neighborhood can gather in a nearby public park, or can hold bigger meetings in a larger park. However, with the current situation at the time of writing this paper (COVID-19), where people refrain from meeting in large groups, we have provided an alternative of implementing this idea. One feasible alternative is to hold online yoga meetings so people do not necessarily have to go out and meet in large groups.

Positive effects that we can see from implementing this idea would be mentally and physically healthier individuals as yoga has been long known to promote mental and physical health. Through community yoga, people of the same community can also get to know each other by doing a common activity, and thus establish stronger community bonds.

Furthermore, we can also expect organizations related to yoga to increase if yoga becomes a popular activity. These organizations could be both for social purposes such as charity, or for economical purposes such as businesses. If the popularity of yoga reaches beyond the country, it could also help the country build better international relations such as tourists visiting the country for the sole purpose of exploring yoga.

3.2. Future Potential in India-Japan context

Recently, Japan has increased the popularity of health-conscious items. Vegan, healthy restaurants have opened a lot. During this Corona-era, Yoga has a huge potential, which also could be a great opportunity to let people know about Indian culture.

Indian academic field, Bangalore IT-hub, there are tunes of Indian elements that are not familiar in Japan, even it is approachable, and Vice versa. By gaining the attention of both citizens by both of the unique cultures. That could lead to even more significant India-Japan relations. Also, especially in Japan, we should organize and recognize what we can offer to India to take a speedy approach.

We believe that the India-Japan cultural exchange through Yoga could advance both social challenges and presume amicable relations.

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ANNEXES AND REFERENCES

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Culture, Environment and Technology of India

Theme Area	Culture / Environment / Technology / Others (Please specify)			
Title	<i>Free Online Courses for Women in India</i>			
Group Number-	2	Number of Students-		7
Moe Tsuyuki(72005691)	Hikaru Yokomori (72048602)	Soga Kodaira(71603299)	Ayaka Oba(71901587)	
Wakana Tani (71804991)	Seoyoung Chung (71775537)	Hiyori Kato (71941968)		

1. Theme Background

In India, there have been a lot of gender inequality and problems. For instance, crimes against women such as rapes, domestic violence, lack of education. Additionally, there is preference for sons because of patriotically because married couples live with husband's parents and the dowry system which bride's family have to pay for groom's family. This makes family want to have sons and makes daughters feel unneeded. This social system force women's self esteems low and accelerate the gender unequal. On the other hand the global society tries to eliminate the gender inequality from the world, Indian society still remains the inequality from a lot of aspects. According to the Human Development Reports which is written by UNITED NATIONS DEVELOPMENT PROGRAMME, Indian gender equality rank is 127 in 189 countries. This is obviously unequal compared to the other countries and looks need to take time to resolve this problem. Even though there is the fact issues that women are discriminated in India, there is the foundation which believes that the movement for women rights makes men's right decrease. They are called Save Indian Family foundation. Some NGO and people who try to resolve issues which are women labor environment and changed some laws in order to increase their wages, employment opportunity, skills. Additionally, Indian government founded women's skill development bureau. Those movement is only for women and that is why they protest about it. This disagreement of opinion is the reason why women's rights movement is going slow.

2. Key Societal Challenges

There are many problems girls face before her education. In India, as mentioned above, boys are valued more than girls. There are several cultural reasons behind this. Firstly, it is thought that a boy will grow up to become the main worker who takes care of his family and pays for their need while a girl will do the housework. Secondly, parents will want boys to take care of them when they become old while girls because they marry into a family, cannot. Thirdly, a boy is viewed as an asset while a girl is seen as a burden, as parents are often pressured to pay dowries when their daughters marry. Because of these reasons, Indian girls face feticide, practice of child marriage, widow re-marriage to women's right to property and other inequalities. These all contribute to the neglect of girls leading to low education rate. Moreover, there are factors that make girls dropout of school, household chores. It is strongly thought, in India, that it is women's jobs to do the housework and that girls are required to help their mothers manage it. It is said that around 40 percent of 15 to 18-year-old-girls were out of school and among them almost 65 percent were engaged in household work. Also, Indian women do about 10 times more unpaid care work than men and housework accounts for 85 percent of the time women in India spend on unpaid care work.

Other factors contributing to low female literacy rate in India is the lack of education related to hygiene and limited access to safe sanitation facilities in school. Theses issues have developed a concept of sanitation insecurity among women of all ages across the country.

Many argue that lack of menstrual knowledge and poor sanitation infrastructure are some of the major obstacles that India has to overcome in order to increase female educational attainment. According to the article written by Katie Hewitt, “at Kalthana Primary School, the toilet block was a set of open-air urinal stalls without a roof or doors.” Instead, it was “just partitions, cubicle-like, between holes in the concrete floor” in which female students refused to use. Apart from the poor sanitation level, numerous schools in India still do not have separate toilets for girls and boys. Therefore, a lot of the female students choose to relieve themselves outside of school property for the sake of privacy, which disrupts their learning progress and classroom motivation.

3. Key Social Innovation Idea

The key social innovation idea is to provide free online educational courses. This course will only be provided to girls who are unable to go to school due to whatever reason. It will cover from pre-primary education to secondary education. The curriculum will be exactly the same as the ones that are set by the school education boards. Exams will be conducted through internet and will be evaluated by computer (AI). This allows the evaluation to not only be entirely fair and unbiased but accurate as well. It is shown that AI’s large capacity of information makes marking of the productive skills of writing and speaking possible. It is not only possible, but is actually a lot more reliable than a human’s evaluation. Students will then be awarded with school diploma after the completion of these automated assessments. Needless to say, only officially certified teachers (who are determined by the National Council for Teacher Education) will be qualified to teach in the courses. There will be no specific time span set for the completion of the curriculum and the courses could be taken by any women at any age at any time and place (assessments will be conducted with time limits nevertheless).

We have decided to target these free online educational courses to girls only. This is because our goal of this idea is to reduce gender inequality through education. Education takes a big part in reducing discrimination and enabling girls to learn may be able to contribute to changing the situation of gender inequality in India. By providing the free online courses to girls only, we are hoping that we will be able to help achieve equal education opportunity.

Between 2006 to 2010, only 26% of girls completed secondary education compared to 50% of boys. This has affected the literacy rates in India as well. 82% of boys are literate, while only 65% of girls can read and write. It is evident that gender inequality in education opportunity exists in India.

We thought of ways to reduce this gender inequality in education and education opportunities. Providing free online education courses to both girls and boys may boost up the educational standards. However, we are prioritizing girls’ educational opportunities and focusing on reducing gender inequality. Providing these courses to both boys and girls will not reduce gender inequality. Narrowing the users to girls, we may be able to boost the girls’ educational standards, reducing the gender inequality.

3.1. Practical Implementation

To solve gender inequality in India, our team brings out the idea that every women in India get chance to be educated by free online classes. It seems that people in India are too poor to buy smartphones however, recently a bunch of people have them in general. People are able to get close to any surrounding information now compared to before and our team thought that now is the best time for women in India to be educated. It is obvious that there are a bunch of poor people in India. But at the same time it is also true that there are tons of rich people. The

taxes that people pay as duty should be assigned to education more. By that new policy, country will be able to spend the money to get computers and give them to women with no cost. And for women, all they need is just one smartphone for each. It does not matter wherever they are, they can access to online classes easily as long as there is a network. Since it does not cost at all, a lot of poor women can study more and will get to notice that the situation which women are treated bad is not usual through rich education.

3.2. Future Potential in India-Japan context

Future potential between Japan and India in terms of our group's innovation idea is mainly focused on technical, financial, and materialistic cooperation. As mentioned in 3 and (3.1), in order to provide free online educational course service, issues regarding infrastructure, money, and human resources needs to be dealt. Japan could be the country, contributing to this service.

First of all, when implementing such service, technological complication will be the biggest issue. Whether the platform being the browser service which requires computer or applicational service which requires just iPad or even combination of both, distributing the service at real hand is the biggest obstacle. Regional disparity and the quality of each sector will be questioned, dealing with the financial and infrastructural application. With such problems, as mentioned in class The Japan International Cooperation Agency (JICA) and other organisations have been working with India to alleviate poverty and disparity, and with number of success cases in Japan with online educational services, Japan could cooperate with India in the development of the service itself. As JICA dispatches many experts every year, the ratio could be focused on educational development. As for the contents of the service, non governmental organisation could contribute with many successful cases in Japan, such as JMOOC, DWANGO, and Recruit. The merits for Japanese companies would be the data and the publicity of corporate social responsibility addressing female education and gender inequality.

ANNEXES AND REFERENCES

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Culture, Environment and Technology of India

Theme Area	Environment / Socio-economic		
Title	<i>The use of Dabbawala for the environment and food waste reduction</i>		
Group Number-	3	Number of Students- 5	
Narumi Kikuchi (71902315)	Eugene Nagayama (72006339)	Ken Hinase (71775656)	Hideto Naito (71805381)
Hiroto Kato (71941996)			

1. Theme Background

Dabbawala is a lunch delivery service popular in big cities like Mumbai where the population is great, so the businessmen have to live far from the urban area. It started in 1890 by a man called Mahadeo Havaji Bachche with about a hundred men in Mumbai. There are about 5,000 dabbawalas and they have to deliver and bring back to each home about 200,000 dabbas every day. The word "dabba" means a box or container, and the word "wala" means the people who do it or the people who are related to the thing. The dabba is made from two from four tiers which include rice, curry, vegetables or dessert etc.

First, around 10pm the dabbawalas will pick up the dabbas or tiffin lunch box that are just made. Next, they would collect the dabbas and put them on the train heading to the urban area. After the dabbas arrive to the nearest station of the destination, they would be sorted and moved by a relay style. Over 6 people would be involved in the relay but 99.99 percent of the dabbas are delivered to the right people. After delivering the dabbas, the dabbawalas will take a break and start to gather the dabbas again to take them home. Even in bad weather like a monsoon or train laten, the dabbas will be delivered on time. This is because of the organization which the mukadam organizes about 30 dabbawalas and always has a extra people in case of sickness or accident. Some of the dabbawalas do not read but the signs and numbers on the dabbas lead them to the correct destination. The dabbawala is not a part-time job but a job which some people work until 80 years old and the rate of people leaving this job is very low. The salary of the dabbawalas are all the same including the mukadams and it's about 5000 rupees. This is about half of the businessmen who works in Mumbai but the dabbawala business is not a poverty industry. They also only have 4 rules; no drinking no smoking while work, put on the white hat during work, put on your ID card, contact early if you are going to take a day off or else would need to pay some money. The dabbawala business is a wonderful business style and some countries other than India uses this delivery service and it's popular among some engineers from India who work in the Silicon Valley.

2. Key Societal Challenges

Regarding the Dabbawala system, there were several points that caught our eyes, but our group decided to focus on two mains challenges regarding it. Those two are where do the foods come from and what is done to the containers of lunch boxes handed out.

Firstly, where do the foods come from? This was the biggest question. The Dabbawala system was made so as to be able to help those that are in need of financial aids and thus, there is a need for the budget of the whole system to be kept as sustainable as possible for both Jose that receive the food and those that run the system. Therefore, having this in mind, not much can be put in the food. Dabbawala foods usually come from food made at home or are leftovers from restaurants or parties that are to go to waste. The reason the food is made mainly at such places and not at places such as factories is that users prefer to eat food they are used to eating.

In addition to this, by using foods made at home and ones that were about to go to waste, it helps keep the budget low and can avoid additional costs.

Secondly, what happens to the containers used for the lunchboxes? In the world, environment has been a major issue and many methods are put in to prevent waste in many countries. For example, Japan has made a decision to charge for plastic bags to those that want it from July 1st, 2020. 'This was done to reduce the unnecessary use of plastic bags and enhance people to use eco-bags which are reusable bags to prevent such waste. Having such a shift in the environmental issue, how does dabbawala manage to keep environmentally friendly? Dabbawala lunch boxes are put into two to three tiers of metal tins. If new tins were used in every lunch box every time, there will be a huge waste of metal tins. However, to prevent such a waste, Dabbawala would collect them from families after they have finished the door and reuse the tins the next time, they hand out lunch boxes. This method reduces any waste that can occur making it environmentally friendly.

From these two points of focus, our group came to think that these methods can be used for a social innovation. That is for the environment and to reduce food waste.

3. Key Social Innovation Idea

Due to the spread of the new coronavirus infection, we can see that unsold items are conspicuous in convenience stores and supermarkets. And, there is a lot of food leftover from school lunches because elementary schools and junior high schools around the country were closed.

The following scenes have been frequently seen in Japan since before. The first one is bento boxes and delicatessen items that have expired, and even if the packaged food has a sufficient expiration date, it will be withdrawn and removed from the store and mechanically discarded at convenience stores and supermarkets. The second one is many shops and restaurants do not allow customers to take home foods that they could not eat because they ordered too much. We will approach this situation from the delivery system of dabbawala in India.

Dabbawala takes on leftover foods at parties and restaurants and tries to deliver people who need it to eat, so it connects the reduction of food loss and support for people with financial difficulties. In addition, dabbawala picks up lunch boxes made at home every morning and collects empty lunch boxes in the afternoon to return them to their homes, which reduces environmental waste. We think that such activities of dabbawala can be utilized in Japan.

The delivery industry, which has been attracting attention due to the pandemic, should deliver unsold foods at convenience stores, supermarkets, restaurants, etc. to economically suffering single-mother families and students living alone. Then, collect the foods they have eaten and dispose of them according to the type of garbage. This will reduce food loss and may help address environmental waste issues.

3.1. Practical Implementation

Eco-friendly Packaging

In order for this to work in Japan, actions must be taken from the government level. The government can propose a law where all deliveries are to be done with reusable bento box. This can be promoted by reducing tax when ordering food via delivery. Bento Box received from the convenience store and restaurant, are carried by the middlemen to the offices. Once

the office worker is done eating, this box can be organized and left in a trash compartment, sorted like how all trash is sorted in Japan. At the end of the day, the middlemen come and collect the boxes, to be taken back to the restaurant. In the case of the convenience store, the boxes can be supplied to the center where bentos are made daily. Since not many Japanese restaurants do take out due to inconvenience in packaging, having one central bento system may perhaps help be a convenience to these restaurants to package their product.

Food Waste Reduction

In 2018, a Japanese playwright, So Kuramoto, wrote on a blog that “384-604 tons of food is being wasted from combini each day,” (Ide, 2019). Food Waste journalist, Ide Rumi, met up and discussed with Kuramoto san about food loss from convenience store. Ide and Kuramoto San decided to calculate the number of bento being wasted each day, dividing the total tons of food wasted with the average weight of bento (400g). With this calculation, it can be said that around 1 million bento being wasted each day (Ide, 2019). While the number seems insanely high, the annual food waste in Japan accounts to 6.5 million tons of food per year (Horiuchi, 2019). It is also said, that 3 million kids in Japan, or 13.9% of Japanese kids are living below the poverty line (Japan Today, 2018). Implementing the concept of Dabbawala collecting leftover food and giving it to those in need can be a possible solution to the problem. Firstly, the government must regulate the safety of leftover food given to those in need. A realistic guideline is to select Bento that have not reached Expiration Date that was going to be wasted and deliver those to a center community where people-in-need can register and grab their meal. On the other hand, many Japanese supermarket products are labeled with best before date, and not expiration date. Supermarket throws away food once it's past best before date, even though it's still edible. Food still edible past best before date can be contracted with Dabbawala and delivered to those in need.

3.2. Future Potential in India-Japan context

With this idea of using Dabbawala for solving food waste problem and delivery issues, we can promote this as an idea to solve various environmental issues. Like we already wrote, this will not only directly lead to the reduction of food waste, but also to provide food leftovers to people in need. And by using reusable packages, this idea would drastically decrease the amount of plastic trash being disposed illegally. In order to start and promote the Dabbawala system in Japan, we could invite Dabbawala specialists from India to share some skills and know-how to make this project successful. By sharing issues and problems between the two countries, this will lead us to understand each other's culture and also build a relationship of mutual respect.

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Culture, Environment and Technology of India

Theme Area	Environment (Air Pollution)		
Title	<i>WEATHER FORECAST? NO, MORE LIKE PM2.5 FORECAST!</i>		
Group Number- 04	Number of Students- 4		
Soonyun Chun (71904894)	Yoshiaki Honda (71806975)	Marino Mitsuda (72007989)	Hyejin Hong (71608079)

1. Theme Background

Air pollution has been a big global issue for many years and is the major cause of climate change. It triggers many other problems such as health issues, causing various diseases for example, lung cancer, asthma and cardiovascular diseases. Moreover, according to the World Health Organization (WHO), the number of deaths worldwide due to air pollution is estimated to be as high as seven million people per year. Furthermore, exposure to ambient (outdoor) air pollution is highly responsible for 4.2 millions of deaths. Air pollution matters can often be neglected due to the fact that, although smogs and haze can be seen, most of them are not visible by our naked eyes. This is a serious issue because WHO reported that “91% of the world’s population live in places where air quality exceeds WHO guideline limits”. With this number, it is understandable that a lot of people may be walking around without the acknowledgment of their exposure to air pollution. Air pollution is secretly killing human lives and everyone ought to be aware of this matter. Hence, this matter will be looked into with a perspective of an attempt to advocate awareness rather than thinking about new policy or regulation.

The reason why we decided to look into this matter is because in Mr. Takuro Takeuchi’s lecture, it has been addressed that India’s air pollution is a very serious issue. The shocking data of “India was also home to 21 of the world’s 30 most polluted cities in 2019” and “By one estimate, breathing Delhi’s air one day has the health impacts of smoking at least 25 cigarettes” shown in the lecture has induced us to further examine the issue.

2. Key Societal Challenges

Many policies are implemented to tackle the problems of air pollution in India with the cooperation of the world. However, according to the World Air Quality 2018 report published by IQAir Group and Greenpeace, it has stated that 15 of the cities in India were ranked into the top 20 most polluted cities in the world. It is indeed shocking data and it must be addressed immediately. In addition, air pollution is strongly responsible for 1 in 8 deaths in India. The biggest challenge of air pollution is the negative impact on health but an article written by Steven Bernard and Amy Kazmin has reported that at least 140 million people in India are taking in air that its quality is 10 times or more severe than the WHO guideline limit. On the other hand, India is a rapidly growing country and it would be hurtful for the economy to reduce further economic activities with policies and regulations. Hence, it would be much more efficient to tackle the problem by having the whole population to understand the impacts to

prevent impending dangers. It is the health of the populations and they are absolutely responsible for their own actions in these harsh situations. Not knowing is a huge indictment of the society that lives in extreme high air pollution.

3. Key Social Innovation Idea

We propose the Live Warning System of Air Pollution which is an innovative service which can contribute to the health of people in the world.

This service provides a real-time heat map of air pollution in urban areas in India. Users of this service can get alerts from our app to avoid polluted areas.

The features of this service are below:

1. Data meshes is quite small and localized

One of the critical problems is the number of monitoring stations. The lack of stations prevents citizens from knowing where the most polluted areas are in our daily lives. We solve this problem with mobility and IoT. Air pollution monitoring data can be gathered from IoT devices on EV taxis and delivery car's. According to Ola, the largest car share company in India, it provides 100,000 EV cars in the next couple of years. If we add air quality monitoring devices on these vehicles, we can gather huge amounts of air quality data from many different places in urban areas.

2. Health insurance

Our proposal focuses on the health of users, therefore, we provide not just useful pollution information but also warning. Users can get warning pop-up information which recommends them to avoid polluted areas.

This service can be collaborated with the health insurance service. If people cooperate to avoid polluted areas or actions done to avoid pollution, we can infer that the users take care of their health, which means that the users are healthier than other people and as a result, health insurance companies can reduce insurance fees.

3.1. Practical Implementation

As mentioned before, we provide this service with health insurance and make sure that it creates a positive impact mainly on individuals. Public sectors and private sectors can purchase our big data and create new business and public service related to air pollution and environmental issues. In public sectors, for example, they can use our data to identify who pollutes the air and they can create new regulations and rules with evidence-based approaches. We should implement this service from the area which affects air pollution badly (for example India, Mexico, and Iran) and then expand it to other regions as well.

3.2. Future Potential in India-Japan context

Both Japan and India have air pollution issues. Our social innovation can control air pollution and make the situation better. By sharing knowledge and advanced technologies from each other, a greater effect can be expected. Furthermore, our innovation can also be applied to other environmental social problems such as water and land pollution. The innovation system can be

applied into similar situations, as there is data that can be collected and made related to health insurance or maybe a discount when buying new furniture and other stuff. There are quite a number of natural disasters in both countries so managing water and land pollution with our social innovation can help in an indirect way.

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Culture, Environment and Technology of India

Theme Area	Environment		
Title	<i>Safe water</i>		
Group Number-	<u>5</u>	Number of Students- 7	
Raina Wolfe (71635069)	Yuka Miyoshi (71807497)	Miyu Himeno (71906577)	GAO KEVIN (71942934)
Soichiro Miyajima (82008115)	Maki Miyauchi (71775825)	Kento Tsukamoto (71904916)	

1. Theme Background

We are mainly talk about the area of environment about India, and we will mostly be taking part in water and pollution.

First, India is a big country, and both good for Indian and traveler, just in our group, there's two group members tent to go to India this summer. (because of coronavirus they might can't really go there.)

But for that, India is known as a big travel country as well, there's a lots of travel recommendation for India, but the point in every travel note is that don't drink raw water in India.

So, there's two reason of that, first Raw water in India is mainly hard water, people of Japan usually drink soft water, and their body can't really fit that. And also, pollution (especially plastic) is problem too. As our picture in the slide, India have a great problem in plastic waste. Also, in the present scenario, the global coronavirus issue, there's many countries had been found that virus in the sewers, it might because of the water quality, cleaning of water or the person get coronavirus's fecal matter.

To handle this situation, we attend to make people in India and traveler could drink safe water and also to reduce plastic waste in India.

2. Key Societal Challenges

The key societal challenge we faced is that India generates 25940 tones of plastic waste every day, this weight is about 9000 Asian elephants or 86 boeing 747 jets. And in all these 25940 tones of plastic waste, 10376 tones a day is uncollected plastic. One-sixth of all those waste was generated by 60 cities, half of this comes from Delhi, Mumbai, Bengaluru, Chennai and Kolkata.

3. Key Social Innovation Idea

Our key social innovation idea is carrying out 'mymizu' project in India.

What is 'mymizu'? the word is come from Japanese, it means my water, and this project is a mission to help people live more sustainably. And not in an old school way, like saving water by turn off the faucet, take shorter showers or turn off the water while brushing your teeth. It's more fun and easier and good for the planet. By co-creating tools and community - like the free refill app - Building a world with cleaner oceans, healthier ecosystems and happier people.

'mymizu' project is a project using app and a water bottle of this app, you can find shop like coffee shop, and using this app, you can ask the shop to full up you bottle. It can save money and protect environment by not buying plastic bottle water. Also, for India, it can avoid raw water, and considering both the hard water affecting traveler and pollution problem, it can be a safe water as well.

Also, the way we carried 'mymizu' in India is that, Raise capital through the collective effort of the rich in India by crowdfunding

3.1. Practical Implementation

We were planning to implement by crowd funding and corporate support.

There are several positive impacts, for individual, each one can save their money, and also have healthier choice, for example, plastic water bottles contain harmful chemicals like BPA and antimony which can cause various health issues.

For organization, it can encourage organizations to be more sustainable. For example, branded water bottles can increase brand awareness and boost business.

For community and national, it can create a more water-conscious community, also for the national, it can prevent microplastics from ruining environment.

At last for the global, the 'mymizu' project can reduce plastic waste, protect animals in their natural habitats.

3.2. Future Potential in India-Japan context

Now a days, Safe water is hard to find in rural area. Carrying 'mymizu' project and devices in every villages and provide safe water to Indian over 1,000,000,000 population.

Carrying 'mymizu' also able to reduce plastic consumption as well.

The 'mymizu' is not only a device or a national project, it can carry in the world, promote the 'mymizu' project will bond not only India-Japan, also another way to connect the India and the world.

Look at the India-Japan, people promote 'mymizu' in India and Japan can get bond, and the place also can share each other's idea of the shop and thinking. For the national reduce the plastic waste would good for both countries, by promote this project, it can also make two countries can have connection in environment protection.

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Culture, Environment and Technology of India

Theme Area	YOGA		
Title	<i>Yoga lesson -connecting India and Japan-</i>		
Group Number- 6	Number of Students- 4		
Junhu li (71776018)	Hinako Takei (71944673)	Kanaho Nii (71905873)	Manami Naruki (71635385)

1. Theme Background

Nowadays COVID-19 is impacting social, economical, political value of individuals.

In India, COVID-19 is triggering mental health crisis, and there are news that suicides are happening because of the situation caused by this virus.

Also In Japan, it is said that about 90% people are feeling anxiety, as they cannot hang around with their friends, have to wear Mask all the time, and not able to go to school or office like they used to before. After the emergency declaration, many of us realized how much energy we were spending only by going to school, shopping, and so on. If you aren't conscious enough to do sports or exercises, you will definitely lose your muscles and your immunity will get weakened. It is certainly not good for your health.

These facts represents that COVID-19 is also causing serious damage to our health.

Based on these situation, we decided to choose this theme because we considered that yoga has the power to cure mental and physical damages such as extreme agitation, and neurological problems mainly confusion and delirium.

2. Key Societal Challenges

The key challenges that we are trying to address through our social innovation idea, is that COVID-19 is causing serious damage to our mental and physical health. it is also inhabiting us from "communication" which is very important for our mental health.

There are a lot of yoga lessons that you can participate if you look at youtube or other networks. However, we considered that this is not enough for improving our mental health.

The key challenges of online yoga lesson are that the commitment of class would be poor and you may keep on doing the inaccurate pose since there is no one to corrects you (I myself go to yoga classes but the teacher corrects me every pose because i am really bad at it), and also, it is hard to concentrate with ambient noise and lack of space at home.

3. Key Social Innovation Idea

As COVID-19 pandemic situation may be overwhelming to many, with unpredictable future and restricted lifestyles, stress levels are higher than it ever has been.

However, with new social innovations using both online offline yoga classes, it might help reduce the stress caused by this pandemic and prevent any potential mental illnesses from occurring.

As yoga requires you to control breathing, study shows that Yoga has an ability to balance parasympathetic nervous system.

By combining this mechanism and internet, we can prevent anxiety and mental illnesses anywhere in the world.

Yoga lessons here in Japan mainly focus to be in a shape, however considering the current situation, what we should be focusing on is our mental health.

Therefore, we believe that yoga and meditation sessions focusing on our mindfulness using internet would be a great fit to help ease worry and stress. With this, we are hoping to eventually reduce the suicide rates as well.

3.1. Practical Implementation

First, we have to make a promotion for spreading Yoga's good effects, especially to the education related agencies or bureaus.

We will also make an easily understandable manual online so that anyone can join freely, and hold an optional community based Yoga lesson several times a week in an open space such as a park.

We are also planning to take a partnership with Indian people for planning and implementing. This would lead to a stronger connection between India and Japan.

3.2. Future Potential in India-Japan context

By implementing this idea, it will improve both mental and physical health, which will lead to less suicide rates. As Yoga becomes more popular and common for us, it can increase the number of people who are interested in Yoga, and also Indian culture.

If you look at yoga closely, you will know that Japan and India have many connections. For example, the name of "Yoga" station (in Tokyo) came from yoga.

Since we cannot go abroad casually as Covid-19 is not still settling down, we will have fewer chances to know about other countries, but our social innovation idea will also provide the opportunity to cross-cultural exchange between India and Japan, and taking a partnership with Indian people for this idea will widen our views. The rising interest in India may lead to another new social innovation.

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Culture, Environment and Technology of India

Theme Area	Technology		
Title	<i>Internet as a Law</i>		
Group Number- <u>7</u>	Number of Students- 5		
Yukiko Iwata (71641053)	Wei Chi Lin (71776046)	Ryoga Baba (71906458)	Kento Yamamura (71808147)
Mifu Nakamura (71945546)			

1. Theme Background

The Internet is becoming a necessity in everyday lives and is further proven by the coronavirus that is occurring. Having no access to the Internet disables people from partaking and shifting to remote learning and teleworking. This example can also be found in India, where a recent survey shows that 75% students have been impacted by the coronavirus because pursuing studies online is difficult (COVID-19 unveils...). To add on, as the Internet becomes more widespread, many platforms/mediums are shifting operations to the Internet. For example, newspapers will slowly but surely disappear as online news outlets become the norm for people to get the latest news, especially when the current teenagers become the future's elders. Therefore, as we transition further into the digital age, it will become critical to get Internet accessibility to the ideal 100% coverage. In order to accomplish that, the first step should be demanding all citizens to be connected to the Internet. If no enforcement is in place, it will become difficult to persuade the citizens to start paying for a service that they have never depended on before, even though they might need it in the future. There are already countries, such as Finland making internet access a basic right, and we believe that other countries such as India and Japan should follow their lead out of their own interests.

2. Key Societal Challenges

We mentioned that the internet is becoming a necessity in our society. On the other hand, according to the "Telecom Regulatory Authority" of India, in 2018, total internet density in the country stood at about 49 percent. Of that, 25 percent lived in rural areas and 98 percent in urban areas. Electricity is crucial to internet access. The research clearly appeals to the persistence of digital divide among Indian rural areas. Especially in these difficult times, it is important to note that uninterrupted electricity and stable connection to the internet, which are prerequisites for online education, are not uniformly available throughout the country. This is also another challenge, as a lot of internet service providers do not have coverage in rural areas. As spoken in the background, there will be a learning curve after acquiring internet access. However, it is also important to note that roughly 15% of the world's population and increasing by year, are considered illiterate (Roser). Therefore, giving everyone internet access is only the future step to a long existing problem we currently have. Setting up a proper education system as well as refurbishing the current education systems incorporating IT classes is needed in certain regions. Another challenge that this social innovation faces is the cost issue. People in rural areas will not be willing to pay for a service they have not depended on and vice versa, ISPs will not be willing to build infrastructures to support an area with such low demand.

3. Key Social Innovation Idea

The main reason to tie internet accessibility with the law is to enforce everyone have access to the internet. If having access to the internet is part of basic rights then the government will push ISPs to expand their infrastructure to rural areas, as well as ensure that all citizens are connected. For example, Finland has declared what is called the “Internet-access Law” to normalize internet access as a right. They promised the citizens to provide at least 1Mbps of internet. This kind of governmental action among internet accessibility is not a universal standard. English government agreed to provide 2Mbps of internet to all citizens until 2012, but they did not obligate it as a law. Finland government is the first to make law enforcement about internet accessibility. However, there are some claims that 96% of citizens in Finland had access to the internet, therefore it was easier to make it a law. Also there are some concerns that free access to the internet can damage privacy from a security point of view.

Another point to address is innovation among the private sector. Some private companies have developed services that provide internet to rural areas for a cheap price. For Example, a company based in California called Kumbaya, has developed a platform that connects users to LTE, 3G, WiFi powered by solar energy with a relatively cheap price. This service, called “zeroXess” does not require geographical conditions. Therefore it can be used as an IT infrastructure in any rural area. The system includes additional services such as radio and TV access, using sustainable solar energy. However the bottleneck of this service is that the solar panels still remain expensive, which makes it hard for rural areas to install the infrastructure. Another example, is the “internet balloon” developed by Loon. This service allows the internet to reach wider geographic coverage. This system also uses solar energy to produce electricity. However there are several problems among flying the balloons up to where the internet is necessary. Like shown above, there are some possibilities for the private sector to come up with a sustainable and innovative idea to expand internet accessibility among rural areas in India. However it is important to consider the conditions of rural areas in India, so that there will be no mismatches.

3.1. Practical Implementation

IMRB’s data shows that nearly 22% of the people living in rural area believe that they do not require Internet which is also pulling down the usage of Internet among the Urban Crowd. Although there has been a significant growth in the user base across 35 urban cities in India, 19% of the users are still unaware of Internet and 10% feel the need to use PC.

3.1.1 Law enforcement

Our design is to bring the Web to rural areas, where geographic challenges have limited access until now. Therefore, government and local ISPs should work together to set up infrastructures that can support rural areas that were having difficulties before. We set the schedule to spread the Internet. First, ensure that every person in the country can at least enjoy minimum broadband speeds so that they can freely

access the internet at schools, universities, and libraries. First standard of broadband connection would be 1 Mbps (megabit per second). And by seven years later, make the minimum speed of connection 100 MBPS. By having at least 100 MBPs, it guarantees the users to have enough bandwidth to do things like remote working or studying.

3.1.2 Design of the community

There are four different literacies that must be educated to the public in order to maximize the potential in giving everyone internet access. Computer literacy is the knowledge and using ability about computer. Information literacy is the ability for using computer equipment and picking necessary information from an enormous amount of information and then utilizing it. IT literacy is the ability to understand the factors related to IT. Internet literacy is the ability to use information networks accurately. These four literacies must be thoroughly taught in the education system in order for the citizens to get benefits after getting internet access.

3.2. Future Potential in India-Japan context

There is a lot of potential in both India and Japan after making internet accessibility a matter of law. In the case of Japan, where there are a lot of students and adults who still do not know how to properly operate a computer, if this idea were to be implemented, the hardest part would be to change the education system. Japan has a traditional education system which has not been changed for past decades until recently. IT classes are starting to be introduced in Japanese education, so the shift is slowly in place. However, another problem lies within the cost of the internet in Japan. Currently, the cost of 8Mbps to 50 Mbps internet connection costs averages around \$30 to \$50 (US vs Japan). This is also the same for mobile data, that is around 2 GB to 5 GB. However, in India the costs of internet connection is extremely low, especially in mobile data. The price of 1 GB of data can go as low as \$0.02 cents. However, the problem with India is as explained in this report, rural areas don't have internet users or have no options of internet access. Therefore, a future where India helps Japan with the cost management for data and Japan helping India with infrastructures and maintaining can be visioned.

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Culture, Environment and Technology of India

Theme Area	Healthcare		
Title	Digitalization as a means to empower knowledge and access to healthcare for civilians		
Group Number-	8	Number of Students- 6	
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Shilin Liu (71635801)	Shinada Ritsunobu (71644358)		

1. Theme Background

Limited knowledge in the field of healthcare has led to multiple mob violences against healthcare workers in the wake of COVID-19, due to fear of the spread of the virus. This is mainly due to growing population with an absence of infrastructure leading to low public expenditure on health and its efficiencies, as well as the inaccessibility of the healthcare services to the public, especially in rural Indian villages. Healthcare accessibility and recreation of the healthcare infrastructure is necessary.

2. Key Societal Challenges

Roughly 70% of Population in India have resident in rural areas though, only 39% of total hospital resources are held in those areas, thus significant lack of access to healthcare in rural area is a key challenge in India. On top of that, even over 300 million of population in India living below poverty line though, 80% of hospitals in India are privately operated and no insurance is covered most of time. Also, people who cannot afford those medical care tend to go to those public healthcare and that causes overwork of medical workers. Not to mention, those overworking of medical workers and lack of supplies in medical care also related to lower health quality with the national.

3. Key Social Innovation Idea

Digitalization of the healthcare system is the most practical social innovation that can be taken into action in order to increase the quality of lives for residents in India. With the digitalization, manual work can be decreased while the productivity is increased. First, by implementing a digital management system, the fast growing population can be countered. Instead of relying on the absence of infrastructure which is currently leading to low public expenditure on health and its efficiencies, all residents in India are able to get access to basic needs. Also, the wide network of healthcare data can be used to check for other likewise symptoms for faster combat and adaptation. In addition, online reservations and quick medical examinations via questionnaires could also be implemented to reduce waiting times and unnecessary expenditures. Not only would this be beneficial for the patients, but doctors/nurses/institutes would also be able to cut costs and put their time and resources to those who really need it. Similarly, digitalization of the healthcare would grant for the creation of a guideline or standard for who and what and when to take medical action. This means, not only would installation of operational strategies be reduced, but treatment protocols could also be guaranteed. Hence, smoother communication and accessibility would be founded, and a more affordable, digital,

and efficient healthcare insurance system can stimulate the reduction of those who can receive medical attention.

3.1. Practical Implementation

For making innovation in the healthcare system in India, digitization of healthcare and creating a new standard is important. The first point, which is the digitalization of the healthcare, creating management system with tech teams of both countries is needed. Creation and installment of digital management service for public hospitals to use, to manage both human and resources will be done. Here, there will be collaboration of resources of India and Japan, finding the best solution for the current state in India.

The second point which is the creation of standard or a guideline, is a little difficult for IT systems to be installed, but installation of operational strategies and regulatory agencies are the key factors. Medical specialists and specialists in the field of medical insurance from Japan take part in joint collaboration to discern issues in the current medical system. In return, Japan would receive important knowhow in reforming entire infrastructures and policies.

Since there is room for practical implementation of already existing applications and frameworks from Japan to India, the usage of Japanese automation and big data technology will help create bigger innovation.

3.2. Future Potential in India-Japan context

A level of collaboration already exists between Japan and India, as a partnership in the digital industry, signed by each government in 2018. As part of this, the Japan-India Startup Hub currently works on bridging the gap between Japan and India's startup ecosystems.

In recent years, the number of new entrepreneurs have increased with the rapid growth of India as a country capable of becoming the next Silicon Valley. As the technology has greatly improved there is room for practical implementation of already existing applications and frameworks from Japan to India as well as new collaborations. There are many ongoing projects in movement already, but even more can be expected in the near future. One example could be to use the online platform to create a system that provides healthcare without the doctor actually being present. By collaborating the two country's technology and data available, locals who are not able to go to the few available hospitals far from home could receive health advice from nearby. The implementation of the telemedicine system could help provide even the most minimal healthcare that many people do not receive as well as simply providing the public with basic health knowledge. Being two great nations with advanced technology, the collaboration between Japan and India could create a new healthcare system that decreases the uneven amount of healthcare given to the citizens and the overall improvement in the understanding of modern medicine.

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Culture, Environment and Technology of India

Theme Area	Environment / Technology		
Title	<i>Electric rickshaw using cow manure</i>		
Group Number-	9	Number of Students- FIVE	
Ayumi Fujii (71906774)	Kiyoharu Hamada (71946096)	Liu Huiguang (71808645)	Mahiro Sena (71844260)
Erika Tanaka (71645402)			

1. Theme Background

Air pollution has been getting a major global health risk. It's widely known that China has been in a severe situation of air pollution. However, do you know that one of India's cities, Delhi, has a higher level of pollution than those in China?

According to the World Health Organization (WHO), Delhi is the most populated city in the world, but recorded the worst annual average number of PM2.5 in the world, putting people at risk of respiratory diseases, such as asthma, pneumonia, and lung cancer because of air pollution. It's been reported that an AQI of 999 was recorded in Delhi which is the maximum score that the meters can record. This is how bad the condition is in India.

In 2013, Global Burden of Disease (GBD) reported that the outdoor air pollution was the 5th largest cause of death in India. The data showed that there were 100 thousand premature deaths due to air pollution. In addition, 30 million people of all ages suffered from asthma.

The non-pure, adulterated fuels used for automobiles in India is one of the causes for serious air pollution. It emits approximately 5 times more due to traffic congestion.

2. Key Societal Challenges

If the air pollution continues to worsen, it will not only cause detrimental health damages to people in India, but also lead to significant globally environmental destruction. India is ranked at the 4th for emitting CO2 in the world.

Right now, it's been said that since India locked down the cities to prevent the spread of the COVID-19, the skies over its polluted cities quickly turned an azure blue and people was able to breathe unusually fresh air. The air condition improved so remarkably that the Himalayan peaks were seen from the cities where the view had been obscured by the deep fogs for decades. Who had ever imagined such a day come when the Indian citizens would be able to enjoy clean air in recent days?

We believe that the key challenge is how to keep such situations of air cleanliness, even after the post-COVID-19. We obviously know that we should not return to the before-COVID-19 world where the air had been seriously polluted. Since everyone in India, though unexpectedly, shared how the improved air was valuable, now is the most effective time to take an action to solve this social issue sustainably.



3. Key Social Innovation Idea

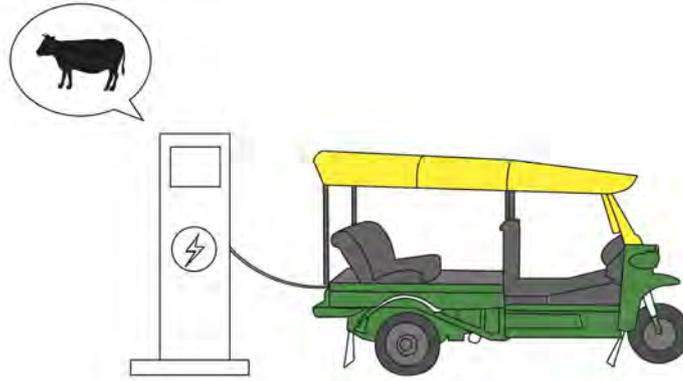
In order to take a sustainable and affordable action against air pollution, our proposal is to generate electricity by using cow manure, which would become a main fuel for Electric rickshaw in India . This is a very unique, Indian-style social innovation idea.

There are many cows in India, crowded in the streets of cities as well as in rural villages. Cows are everywhere in India and we can get cow manure in a very reasonable price. Some of biomass fuels are known, but power generation by cow manure has not yet been popular. India has a high, promising potential to become the first country to generate electricity from cow manure on a large scale. This innovation contributes to addressing air pollution problems in India, because it can not only significantly reduce the amount of CO₂ produced by gasoline automobiles, but also minimize air pollution caused by burning down trees. Unlike Japan and other developed countries, most people in India use taxis and tuk rikisha as their transportation, so instead of EV cars, we think Electric rickshaw will become a more popular transportation for people in India.

In addition, cow manure is also another serious social issue in the Indian cities. Cows are sacred in Hinduism, banned to be killed, and often released freely in the cities. Cows create traffic congestion and their manure left on the streets makes the sanitary condition worse. By utilizing cow manure effectively, this innovation can also have a social impact on addressing traffic and sanitary problems in India.

Moreover, power generation by cow manure collected in rural areas will also contribute to increasing income for people living there and reduce poverty.

The system is simple, first we collect cow manure and with those resources produce electricity and store it in a battery that can make cars and other automobiles run. Unlike Japan and other developed countries, most people in India use taxis and tuk rikisha as their transportation, so instead of EV cars we think Electric rickshaw will be a more popular transportation for people in India.



3.1. Practical Implementation

Firstly, we build a special cow farm & plant, collect the abandoned cows from cities and villages, and then generate electricity by using their manure.

It will be a biomass power generation, whose efficiency is higher than the direct combustion of the cow manure. As well as methane gas, heat formed through fermentation is also used for the refrigeration facilities in the neighborhood of the plant, which help the farmers store food and products.

The power produced by cow manure is transmitted to the charging spots. In the spots, drivers can charge batteries of their Electric rickshaws. As electricity generation and transmission are widely deregulated in India, it is not difficult to deliver electricity from the cow power plants to the cities.

The charging spots are constructed to finish charging in 30 minutes. The electricity generated from cow manure will be named "HOLY POWER" as its brand name, as cows are considered holy in India. Such special brand name will make it popular among the Indian people. The business will start in big cities and then as it goes well, it will expand to other cities as well as the rural areas.

Actually, Electric rickshaws are already developed and seen in India. In accordance with the public goal that 100% of two or three-wheeled vehicles will run by electricity by 2023, there is a promising possibility of increase in Electric rickshaws.

3.2. Future Potential in India-Japan context

The population of India is 1.3 billion, which occupies 29% of population in Asia. Taking advantage of the scale of the Indian market, if the electric mobility technology by the use of cow manure is successfully developed in India, there is high chance to influence other Asian countries to consider incorporating that technology. In addition, as the cost of cow manure is not expensive, it will contribute to reducing the cost of electric automobiles and make them more popular in India, hence eventually around the world.

The popularization of electric mobility in India will also create a wonderful opportunity for many Japanese companies to develop their technology. For instance, the technology of manufacturing lithium-ion batteries in Japan is relatively high, but due the limited domestic demand in Japan at the current stage, there is little economic profits for the manufacturers to further develop such technology. However, as mentioned above, to resolve the issues regarding air pollution in India, there is an urgent demand for India to popularize electric vehicles. Such demand in the Indian market would stimulate the development of electric mobility skills in

Japan, and it will also catalyze competition among industries of electric mobility around the world.

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Culture, Environment, and Technology of India

Theme Area	Environment		
Title	<i>Water Sanitation Facilities & Non-profit Water Brand</i>		
Group Number-	10	Number of Students- 6	
Jun Seok Lee (71835018)	Kazuya Ojiro (71675151)	Sonam Deki Tshering (71844391)	Hibiki Yamanaka (71908444)
Yuka Akiyama (71735011)	Momo Hoshino (71946882)		

1. Theme Background

More than 17% (65 million people) of the total urban population in India live in slum areas. The lack of water and poor water quality is a big issue in the slums. 35% of slum households in India lack access to clean and safe tap water and most households do not even have a single water supply in their areas. An estimation of about 1.2 million households out of around 14 million households rely on dirty tap water for drinking. Drinking contaminated water has been the major cause of infections, diseases, illnesses, and a rise in the child mortality rate. Every year, about 200,000 people die from drinking untreated water.

Private distributors draw water from underground water pipes in the city by using motorized pumps to suck water into hoses and get residents to line up at a particular time to use the hose. In comparison to people in the residential complex, people in the slums have to pay around 10 times the price for water. Every few months, water pumps are confiscated by the government. At present, due to the lockdown for the prevention of COVID19 and the strict police roadblocks preventing all but those with special authorization from the government from traveling on the roads, private tankers and providers have not been able to deliver as much.

2. Key Social Challenges

Due to a lack of reliable access to clean water supply, inhabitants of slum areas are adversely affected in various ways. Economically, water supply has put financial strains on people living in slum areas. The cost of water from private distributors is relatively high, especially for people on a low income, which compromises their ability to buy food. This forces them to take out loans. Since reliable water sources are often located in distant areas from the slums, working adults have little choice but to skip work to fetch water, causing people to miss days from work which results in lost earnings. Moreover, children often have to miss school because they have to fetch water for their families. Having the education of children compromised, the ability of future generations to break free from the poverty cycle becomes questionable.

Inequities regarding government assistance exist between slums that are notified and slums that are non-notified. The difference is that notified slums are slum households that are built upon municipal-owned or state-owned land and were inhabited before a specific cut-off date. If the land is owned by the central government, the slum is not granted notified status, regardless of when the slum was built. These slums are acknowledged by the government, so they receive access to city services such as water supply. In Mumbai, the government manages a chlorinated water supply that is not available to non-notified slum dwellers. This forces residents of non-notified slums to illegally access city water pipes, potentially contaminating the water for all who use it through cross-contamination.

An example of a non-notified slum with such water issues is Kaula Bandar. The community was formed 5 decades ago but its residents do not receive water supply due to the

land being owned by the central government. They, therefore, have to buy from street vendors who inflate the prices up to 40 times the amount that people in notified slums pay.

3. Key Social Innovation Idea

We came up with a social enterprise for city sustainability to address the issue of water shortage and sanitation in the slums. This innovation aims to establish water sanitation facilities in slum areas and provide the slum population with free water.

3.1. Practical Implementation

To finance this innovation, it is necessary to set up a reliable source of income. The possible causes of funds are crowdfunding, loans, and governmental assistance. We plan on presenting our project on crowdfunding sites and to organizations like JICA that could provide financial assistance to raise funds. However, since those sources are not guaranteed nor sustainable, we also came up with a more reliable alternative to fund our project which is to create a social enterprise. We decided to sell purified water from the slums in bottles to non-slum areas of India and foreign markets as well by branding our non-profit product. One example would be those living in Bengaluru, which is a striving IT hub in India facing a major water shortage. It is said that Bengaluru's water supply per day is falling 800 million liters short of the actual demand. Our bottled water could be sold to people residing in Bengaluru who are not suffering from poverty yet are lacking water supply.

The water source for the filtration facilities would be from the slum population and heavily polluted water bodies like rivers like the Ganges river and lakes. To source water quickly from those areas and make the transportation more accessible, we plan to build the water sanitation facilities near those water bodies. This would ensure efficient water management.

The sanitation facility we would rely on a pre-existent water sanitation technology called AguaClara. We plan on collaborating with AguaClara Technologies as they utilize local goods and labor to build water treatment facilities. Moreover, their already existent water treatment plants have proven to treat wastewater properly and use less energy to do so. By treating the waste and polluted waters with their technology, we plan on bringing our clean bottled water to various markets.

We are going to market by incentivizing the people to drink the water sanitized from polluted areas and ensure the excellent quality of the water. We can do this by emphasizing the fact that this is an enterprise working in close ties with Japan, which is known for its advanced water management system and safe, clean water supply. This way, we could reassure possible customers of the water's quality. Moreover, we would promote the product by publicizing that the revenue earned from every sold bottled water would help provide people in the slums to get access to clean water and alleviate the water crisis in India. As this project contributes to the 6th SDG goal, to ensure availability and sustainable management of water and sanitation for all, we could use SDG related events and conferences to advertise our activity and product.

This project would have a positive impact on different levels of society. Firstly, it would motivate the slum population to collect wastewater. Secondly, it would improve their health and overall livelihood and wellbeing with access to clean water. Next, the bottled water social enterprise could encourage the people outside the slums to support the slum population financially. Fourthly, as the slum population contributes greatly to the country's economy through various menial works, their improved livelihood could lead to increased work efficiency and increased availability of goods in the market which could contribute more to the national economy. Lastly, the profit we earn from our social enterprise can accumulate to an amount where importing the Japanese technology for the water pipeline system becomes possible.

3.2. Future Potential in India-Japan context

Our social innovation plans to eventually offset the number of loans that we owe that was used for establishing our innovation and enterprise. The constant monetization will be used to fund an urban planning project that implements water pipeline technology from Japan. Japan has known for its establishment of efficient water management systems through membrane water treatment technology. As in fact, Japanese manufactures have about a 60 percent share of the global water membrane market. Also, Japan's high technical, energy-efficient membrane product holds nearly 70 percent of the global share. For example, a microfiltration membrane (MF membrane) can separate membranes to capture particles like microorganisms and macromolecules, which is used in sterile water production, creating clean fresh water.

In Delhi, India, there is statistical data that indicates 40 % of water loss from leaking pipelines make it difficult for the citizens to access the water. Delhi Jal Board is the government agency that is responsible for the water supply of Delhi citizens. About 27% of Delhi households only can have access to tap water for a limited amount of time of fewer than three hours throughout the day. Also, as of 2016, the demand for water in Delhi was 4300 million ℓ per day but the city stakeholder was only able to provide 3000 million ℓ per day in which only 1,700 ℓ reached the people. Multiple problems that surround the urban infrastructure had limited the amount of water traveling to the people.

Leakages in water pipes in Japan, on the other hand, are rare occurrences. In Tokyo, the water leakage rate of pipes is only 3.1%, reducing the cost of water supply services in the long run. This is in large part thanks to the technology of Japanese water leakage sensing technology. Typically, it would require an expert technician to determine whether there is a leakage using a stethoscope and checking whether there is an irregularity in the flow of the water. It is a very inefficient process as the pipes are very long. However, with a newly developed technology innovated in Japan by NEC, which is Nippon Electric Company, the process has become a lot faster and cost-efficient. The technology is known as Water Leakage Detection Service and is a small device that uses sensors to detect leaks via vibrations in the pipe. It has a wireless antenna that sends the data after recording activity at around 2:00 or 3:00 am when there are fewer cars to disturb the sensors in the device. The data is sent to cloud-based analysis software to be analyzed and assessed. Thus, this new method of detecting leakages in pipes is feasible thanks to the technological advances of India in recent years. Cloud-based technology is a rapidly expanding market in India, which will be of great help to this endeavor. With all considered, the water issue of India will create business opportunities and bring cooperation between the two nations, strengthening ties and making potential future co-operations more likely.

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Culture, Environment and Technology of India

Theme Area	Social Hierarchical Obstacles in India v.s. Japan		
Title	<i>Movement using social network services</i>		
Group Number- 11	Number of Students- 6		
Miyu Inoue (71835087)	YoungJae Jang (71675452)	Takeyoshi Isomura (71735037)	Moe Yoshioka (71908682)
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Research Title: How Caste Systems in India and Japan Plays A Role In Society Today

Research Question: To what extent does India and Japan's Caste Systems still play a role in modern society?

1. Theme Background

Caste system is a social stratification originated from the Hindu culture in India. It divides the Hindus into 4 hierarchical groups; Brahmins, Kshatriyas, Vaishyas, Shudras. At the top of the hierarchy were Brahmins, and it goes down to Kshatriyas, Vaishyas and Shudras. The Hindus are historically divided into their hierarchy depending on their jobs or family history. Those outside of the caste system are called the Dalits or the untouchables. BBC in 2019 reports that the caste system originated from Manusmriti which is an authoritative book on Hindu, and it explains and justifies the caste systems as it is believed that it will bring order in a society. The caste system has a deep-rooted history and culture in India, as its social rules and culture still dictates many aspects of life in India to this day. Originally, the castes were divided into their own communities with no interaction across the caste system, including rules such as no marriage across the caste system. With this strict caste system in place, the upper caste experienced privileges and wealth, whereas the lower castes or the untouchables were subjects of repression and discrimination. However, after the colonial rule of British Empire, a new constitution was created that banned discrimination based on the caste system. To further eliminate inequality created by the caste system, many institutions in India including the government hold quotas for hiring people from all caste systems. Throughout these constitutional reforms and economic development, as well as the development of education, the influence of the caste system has declined in certain regions, although it could be argued that the influence of the caste system remains very influential in India to this day.

Gender inequality in India is a huge issue as well. Culturally, male were preferred over females which led to unwanted birth of women. It is reported by Euan McKirdy of CNN that it has "one of the most skewed sex ratios in the world" (McKirdy, CNN, 2019), It is reported by the WHO that there are 105 males for every 100 females in India. This skewed sex ratio has led to gender inequality in many aspects of life in India. In terms of family, UNICEF reports that "34 per cent of all women aged 15-49 have experienced violence at home since the age of 15". This high number could be a representation of how women in India have historically and to this day, experienced difficulties in their life due to their gender.

As mentioned above, the influence of the caste system still remains strong, as there are several statistics that show that in terms of inequality, India has not developed as well as they have hoped with the reforms. Business Today reports in 2019 that the inequality is not declining, but rather increasing. In terms of income inequality, it is reported that “India’s top 1% of the population now holds 73% of the wealth” (Business Today, 2019). Although this number could be an argument for the increase for the rich, not necessary for income inequality, Business Today reports that it is an effect of the economic system, despite the thriving economy in recent years in India.

Furthermore, the discrimination against the lower castes system have not improved in the recent years, showing the failed attempted to eliminate discrimination by the Indian government. Meena Menon for the Hindu reported in 2014 that there was a 17% increase in cases of atrocities against members of the Scheduled Caste in 2013. It is reported in the article that there are funds and Acts set in place to prevent atrocities against the scheduled castes, but it is argued that they are not effective or not utilized to its full potential.

Another factor to consider is the authoritative system in India. India is a Republic meaning that it is divided into 28 states and 9 union territories. As mentioned earlier, the caste system was segregated meaning that depending on the region, the distribution of the caste system is skewed with each region having different and unique cultural backgrounds. Each state has its own constitution, as well as its own executive, legislative and judicial system. This means that each state deals with inequality in different ways with its own laws and acts against it. This in a sense could be argued that there could be a system suited to each state, but it could also be argued that it is very difficult to unite India as a whole and eliminate inequality caused by the caste system.

With comparison to Japan, it is important to mention the burakumin. Burakumin in Japan originates from the feudal era where they were segregated communities due to their occupations. Occupations that were seen as unsanitary or immoral such as butchers or undertakers were categorized into this social group. This was abolished in 1877 when the feudal system collapsed, but to this day there are burakumin communities all over Japan. The locations of these burakumin communities were well known, so that those who lived in these places had difficulties finding jobs due to background checks. As mentioned above, this system was abolished, but those who live in places where Burakumins used to live, would indicate to employees that they come from the Burakumin family. It is reported by Mike Sunda and Rebecca Milner of BBC that in the 1970s, there was a blacklist of buraku names and community locations that were spread to companies to screen out those who have burakumin heritage. Currently, it is difficult to determine how many people live in these Burakumin communities as they have been abolished, as well as efforts by the government to raise living standards in those areas. However, the attitude of the Japanese people is still mixed towards Burakumin. It is reported in a survey by the Tokyo Metropolitan government, that 26.6% oppose their children marrying someone of burakumin lineage”. (Martin, A. Japan Times, 2019). As shown from the graph, discrimination against Burakumin has not gone away completely in Japan, and they must be more efforts made to eliminate those injustice against Burakumin.

2. Key Societal Challenges

Over the years, numerous policies and laws have come about in combating societal challenges for those that belong to lower caste systems in both India and Japan. However, most policies are not proving to have major changes to the lives that they had pre-policy and now.

In the case of Japan, numerous attempts have been made in combating the 'Burakumin' people from being outcasts of society. However, to this day, they are being discriminated against, and do not have the same job opportunities that other hierarchical groups have. One form of discrimination that family members from the 'Burakumin' people faced up till 2015, which is very likely to still be occurring - is the case of hate mail that these people receive for the line of work they belong to. Those who slaughter meat for income are discriminated against, children and wives of these meat butchers get discriminated in schools, their part-time jobs and more. Though this line of work is definitely not just for males, it is a lot more common. In addition, families of butchers rarely tell those around them about the line of work that the husbands belong to. This is a job that requires immense skill and training often of 10 years or more. Yet, people see it as a job for "the lower class" and that they should not be a part of society or should not be respected as human beings. This goes back to the "Edo Period (1603-1867)" (Osaki, The Japan Times, 2016) definition of the term 'burakumin' - which means "hamlet people" whose classes were categorized as "eta (filthy mass) or hinin (nonhuman). The burakumin are the modern-day descendants of these feudal age pariahs" (Osaki, The Japan Times, 2016). This challenge of exclusion of society is one that must be addressed carefully and quickly to avoid more families and children from being affected in the environments to which they belong to, as well as for their future job prospects and generations to come.

Whilst in India, according to an article published by UC News, around '16% of 1.3 billion people' belong to the social hierarchical group of Dalit (Koenig, 2020). Of the 16%, females were more likely to suffer due to hierarchical discrimination on top of gender discrimination. Though more women are being educated, literacy rates for women are going up in many states in India, it is undeniable that discrimination based off gender comes in hindrance to accessing further education even if they were to wish for it. One interviewee mentioned that due to her belonging to the Dalit social group, when she visited a family of a higher class, she was given different cups and utensils to use, sat on the ground in the mud rather than on chairs like the host family. This was the norm; treating one from the 'untouchable' social groups as non-humans, and individuals from upper classes as 'better', and this should be changed through social innovations like ours. This particular individual (interviewee) had a father who passed away, and thus had to work in a Mumbai College as lecturer to support her own family. Her dream of becoming a civil servant was unfortunately not achieved due to this sudden death in the family, placing the responsibility of being the main source of income in the family on her. Her example displays that her family structure being that her father earned enough money to send the kids to school was highly advantageous, aiding her in becoming an intelligent and financially independent individual. Her hard work throughout school - achieving a Bachelor's and Master's degree had helped her attain the jobs and earn income for the family. However, her being a woman has always come in between smaller scale achievements, and she has had to face extra challenges because of her gender and a Dalit.

In both India and Japan, the key societal challenges faced by those of lower caste groups are in terms of marriage (marrying into families of higher castes), or finding jobs as background checks are very commonly conducted. With regards to the background checks, in the case of Japan, neighbourhoods wherein ancestors of burakumin people were registered on a 'black list' for hiring, thus it was made very difficult for them to find jobs.

Despite Japan's case with hate mail targeting those from the Burakumin hierarchical groups, India's case with physical violence targeting the Dalits seems more severe and must be solved with whatever it takes. Though this is not our main concern of our social innovation, this issue has close relations to the corruption of police and lack of attention to the caste system issues by the law enforcement, closer monitoring of police and actions taken on fighting hate crimes against the Dalits should also be implemented .

One important societal challenge regarding casteism is the political alienation. Although it is factual that social inequality and class discrimination certainly exist in the society, there is a clear difference in the way different political parties look at caste as an issue. For BJP, the right-wing, caste is not a key factor for social discrimination in India. The idea of castes or 'Jati' from the varna system has been under consistent transformation and reforms since the colonial time. They argue that caste itself alone has already lost its value as a social identity. Not all Brahmins are socially respected and wealthy, and certainly not all Dalits are poor. The party claims that the atrocities towards Dalits do not in fact base on the victims' castes but their socioeconomic status. In other words, the reason why many Dalits are socially oppressed is not because of their caste but it is the poverty that makes them vulnerable to the discrimination. Therefore, the party mainly focuses on resolving economic disparity as a means to combat social discrimination. Such an attitude from the right-wing party certainly appears as 'ignoring the issue' to the opposing side. The left-wing party argues that the government is in denial of the social impact to further promote Hindu-nationalism. They assert that the authority is run by the upper-castes, and thus they have the tendency to maintain the social norm that is already there. For Dalits, it is still a class struggle, and therefore equality should be achieved through empowering the oppressed and pulling down the traditional system. One of their key demands is to move away from the Hindu system, which is also argued by the right-wing that caste is no longer associated with Hinduism but with the secular belief system.

However what is certainly missing in the political debate is the voice of the concerned, Dalits. Although they take a significant part of the population, their voice still remains weak. As their concern is not wholly represented in the politics, we are unsure of the truth regarding casteism or the severity of the violence and oppression. For this reason the issues among the Dalits and other disadvantaged groups are oftentimes neglected. This is why the Dalit organizations are formed and protests are emerging.

3. Key Social Innovation Idea (Overview of Solutions)

Caste(or Jati) as an issue is a 'hypersensitive' topic for discussion in India. The topic has been overtly ignored by the upper-caste and the political parties are in denial about the issue. One of the causes for this phenomenon is Dalits' political alienation since Dalits are fundamentally considered outside Hindu society. The Permanent Mission of India officially objected to the March 2016 report which asserts that caste-based discrimination on the basis of "jati, profession, untouchability practices and restricted marriage still remains a "global phenomena" influencing more than 250 million people mostly in India but also in countries such as Yemen, and Japan. The report also dealt with India's National Crime Records Bureau data which testified increasing atrocities against Scheduled Castes. It is mentioned that despite legislative prohibition of manual scavenging, the practice is institutionalized as local governments employ manual scavengers. Yet the issue is still considered 'just a rumor' by some regions in the country.

There have been attempts from NGOs in India to include casteism on the agenda for the World Conference, but they were opposed by the Indian government. Ashok Bharti, chair of the National Confederation of Dalit and Adivasi Organisations, recently argued: “The whole government suffers from a mindset of the upper castes, that are victims of their own guilt and will therefore try to hide their faults” (Kriti Kapila). He argued that the government support for Dalits was not sufficient, which explains why cases of atrocities towards Dalits have increased over the past 25 years. The victims were not wholly protected and the perpetrators were not punished. The lack of effective remedies for the issue explained why Dalits’ right activists have begun to seek international recognition.

UN Special Rapporteur, Doudou Diène of Senegal, in the past mentioned to the international conference on ‘Human Rights and Dignity of Dalit Women’ in November 2006 at The Hague: “You have to go beyond the law. You have to get to the identity constructions” (Manorama) The deep-rooted nature of social caste discrimination has been justified by those who claim that discrimination is natural and should be therefore accepted. To uproot such ideological pandemic, society must engage in constructing a new social norm and go further beyond its traditional understanding of social stratification. The National Council of Applied Economic Research (NCAER), through their recent survey of 2012, discovered that one in four Indians regardless of their religious groups admits to practicing untouchability. This shows the social discrimination towards Scheduled castes is reality in India to this day. We must not attempt to hide the truth, but confront it to hopefully lead to positive transformation.

In 2016, thousands of Dalit protesters gathered at Una where four Dalit men were beaten up by vigilantes falsely incriminated for killing cows. The Dalit’s protest at Una suggested a new way to fight the social injustice and prove their ability to confront the issue. Dalit’s voice has gained its strength in recent years. Their political direction is established under two main political frames: one to protect Dalits from social violence they confront on the basis of their status, and the other to deviate from the traditional norm about social hierarchy. At UN’s World Conference Against Racial Discrimination, Xenophobia and Related Intolerance in Durban in 2001, Dalits sought global recognition of their situations and social movements.

Various solutions for inequality have already been suggested in India. The Indian government has a long history of reservation policy, which is a system of affirmative action to hold quota for hiring currently disadvantaged groups in the society. Azim H. Premji from India Today has asserted that resolving economic disparity must come first before social transformation. He pointed out that there is a very vague decision between the “scheduled castes’ from historical aspects and “the poor” on the basis of socio-economic status. The confusion of the term “underprivileged” is part of the weak points of the current Reservation system, since the resources are not appropriately allocated to those who deserve. Therefore, he demands to review the definition of “Scheduled castes’ to pinpoint the disadvantaged groups in the society. Also, providing vocational training and stronger incentives for participating at the secondary level will in a long-term improve the economic status of the underprivileged and ultimately promote equality. Aside from the economic approaches, he accentuated the importance of cultural transformation, including equality education, and changes in sociocultural practices from different regions. One extreme solution suggested by the activists was to abandon Hindu practices and nationalism to completely move away from the traditional belief system.

For our group, we believe that starting social movements on social media is a practical and effective solution. For specific goals for our movement, we combined some ideas suggested by Prasenjeet Kumar. Through our movement, we aim to build a community with a strong voice,

and demand social changes such as a ban on the portrayal of caste stereotypes in TV coverage, abolishment of any form of official acknowledgement of jati or caste. This way we hope to promote equality and make necessary social transformation.

3.1. Practical Implementation

In order to abolish the caste system in India, some pressure will be needed towards the whole Indian society since this caste system is a deep-rooted historical issue.
Implementations

1. Education from NGO

Since the children in the lower class do not have chances to receive enough education, NGO could provide secondary education (for example online classes).

It is easily presumed that it would allow more job opportunities to the children .

2. Movement from social network services (individual implement)

It is known that The Black Lives Matter movement spreaded all over using SNS.

The movement didn't give up just on social media movement, but managed to press its demands within political and policy circles. Eventually some laws in United States were established through these periods and even besides the law amendment , many situations are still changing.

<Things that have changed>

-Four days after killing George Floyd by kneeling on his neck during an arrest, former Minneapolis police officer Derek Chauvin was charged with third-degree murder. This was later updated to second-degree murder.

-The three other police officers present at Floyd's arrest have also been charged with aiding and abetting second-degree murder.

-Minneapolis lawmakers vowed to disband the city's police department less than two weeks after Floyd's death.

- Mayor Bill de Blasio of New York City pledged to move funding from the city's police department toward youth and social services.

-Officials in Washington, DC, and states including California, Nevada, and Texas, have also banned chokeholds and reviewed police reforms.

-Democrats in Congress have also unveiled sweeping legislation on police reform, including banning chokeholds and forcing federal police officers to use body and dashboard cameras.

It is clear that the social media has a power not only to start the movement but also increase the power of the movement. These movements can be an effective practical implementation.

3.2. Future Potential in India-Japan context

Even after the abolition of the caste system, occupational choices and consciousness of the caste do not change, but jobs created after the abolition of the caste system are not affected by the caste system. A typical example is the IT industry. Some Indian from the Shudra-class have

been studying hard by themselves and joining IT companies to get out of their poor lives. It is one way to get out of the caste loop for them. Furthermore many of the former high-class people who are working with the former low-class people in IT really want to abolish the caste system, because they know that the potential for occupation is not dependent on which class they are from. Therefore, if the IT industry develops rapidly and becomes socially strong more in the future, it may radically change the awareness of the caste system throughout India. By developing the IT industry together with India, Japan can contribute to changing the mechanism of the caste system in India. In addition, increasing the number of female IT workers in Japan also serve as a catalyst for creating a society without gender discrimination on a global scale.

Social media can be used by anyone and anywhere. In those days, the number of people who have smartphones and social media is rapidly increasing, and the power of social media is growing in India. In fact, Prime Minister Modi uses social media as a tool to connect with the public and voters. It can be said that the influence of social media is growing in India, so social movements on social media may have a great impact on India. It is possible to participate in the movements of the caste not only in India, but also outside India. People all over the world who use social media can join this movement even though they are not in India.

It is true that there is an educational gap between high-class and low-class. No matter what class they are in, they can get the IT jobs if they have excellent skills. However, in fact, most of the people who actually get this job are those who have received a high education. Many people who used to be low-class or Scheduled castes do not receive enough education. Therefore, NGOs provide online lessons to eliminate the educational gap. It will allow them to get better jobs, and make India's economy develop.

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Culture, Environment, and Technology of India

Theme Area	Health (COVID-19)			
Title	<i>Using alcohol as a disinfectant spray/sanitizer in rural India</i>			
Group Number-	12	Number of Students-	5	
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1. Theme Background

COVID-19 is said to be one of the biggest biological disasters with over 14.4 million confirmed cases worldwide according to the World Health Organization as of July 20th. India is among the worst-hit nations of the COVID-19 with over 1 million total confirmed cases, making it the 3rd-most COVID-19 infected country in the world (Alluri and Nazm, 2020). While various factors have contributed to the mass spread of the virus in India, the overpopulation and increasing urbanizations have resulted in large slums, where people are packed into the cities, making social distancing measures a difficult task in India. Apart from the social challenges, India faces economic challenges. Around 70% of the population in India, on average, make \$2 per day, with 90% of the country's workforce employed in the informal economy (Livemint, 2020), lacking basic insurance, housing, and access to health care. As a result, the nationwide lockdown lasting for nearly 2 months, has strained work in the central areas, causing millions of daily-wage migrant workers jobless.

2. Key Societal Challenges

As India continues to fight against the global pandemic, one of the major challenges faced is the severe water shortages in the rural communities in India, increasing the vulnerability of the rural areas against the COVID-19. On March 31st, India's water ministry called out the citizens to wash hands with soap and water for 20 seconds, repeatedly throughout the day, as a preventive measure against COVID-19 (Bhowmick, 2020). However, this message ignores a fundamental issue that in rural India, there is not enough clean water to wash their hands. The shortage of water in India is mainly due to the lack of infrastructure, with 82% of the rural household, equivalent to 146 million, and 60% of urban households in India lacking access to pipe water (Bhowmick, 2020). Moreover, more than half of India's districts suffer from groundwater depletion and contamination (Bhowmick, 2020). Another factor contributing to the water shortage is the prolonged seasonal drought, mostly hitting rural India, accelerating the already-existing water shortages in the community. (Bhowmick, 2020). Due to this, many rural communities in India depend on the government water tank truck that delivers a maximum of 20 to 25 liters of water per person per day (Bhowmick, 2020). Other than the water shortage issues, many of the rural population have a laid-back attitude towards handwashing due to the scarcity of the water. 70% of the rural population in India wash hands without soap, making rural communities more vulnerable to various communicable diseases (Bhowmick, 2020).

3. Key Social Innovation Idea

Since the shortage of water has increased the vulnerability against COVID-19 in rural communities India, the social innovation idea is to produce hand sanitizer/disinfectant sprays from alcohol produced by local alcohol companies in India, as an alternative to hand washing.

The WHO recommended sanitizers and disinfectant sprays formulas containing 80% Ethanol and 75% 2-propanol, as effective in reducing the risk of infection. Sanitizers/Disinfectant spray made from high-concentration alcohol is useful because COVID-19 is a type of enveloped-virus, which is vulnerable to alcohol substances. In many other countries, including Japan, there was a large demand for alcohol-based disinfectants. However, with increasing supply, many of the suppliers were not able to keep up with the demands, leading to a shortage of sanitizers and an influx of price. As a solution to this, a local Japanese alcohol company called Naganoya decided to make high-alcohol concentrated sanitizers from Japanese Sochu, in response to the shortage of medical sanitizers and disinfectant sprays. Although this alcohol-based sanitizer is less effective compared to the medical sanitizers containing the chemicals for killing the bacteria, it can be used as an alternative method for rural areas where there is no water in the first place.

3.1. Practical Implementation

To implement the idea of distributing alcohol-based disinfectant sprays to rural communities in India, first, the Japanese alcohol company can teach the expertise to the local Indian company. As India is the home to the world's second-largest international liquor distributor, known as the United Spirits Limited, the company can produce sanitizers/disinfectant spray instead of alcohol. This can also help solve some of the current COVID-19 issues in India, which during April when there was the economic reopening of non-essential stores including liquor stores, hundreds of people gathered outside the liquor store breaking social distancing measures. Also, many shops and companies in India went under bankruptcy due to the prolonged lockdown. Therefore, the production of disinfection sprays from alcohol companies can help the local alcohol companies in India from going bankrupt, as well as creating jobs for the migrant workers in India. The distribution of the disinfection sprays to the rural communities will be made possible through the partnership with the national and local governments. Under the public-private partnership, the sanitizers can be distributed to the local government, which will then be distributed to the local communities. In doing this, the Japanese mask distribution system used in distributing the “Abenomask” can be used, in which the sanitizers can be packed with a small leaflet explaining the importance of using sanitizers. The use of the leaflet can help increase the awareness against the COVID-19 to the rural communities in India.

3.2. Future Potential in India-Japan context

The alcohol-based sanitizers or disinfectant spray made from Sochu was initially produced by a small local alcohol company in Japan. However, with the increasing demand for alcohol-based sanitizers, many larger companies have also stepped into this idea. This resulted in a larger production of alcohol-based sanitizers as an alternative to the medical sanitizers, with the majority distributed to the hospitals and medical facilities where it is most needed. Similarly, this innovative idea in India may only be a small project. However, as India is the home to the world's 2nd largest liquor distributor in the world, the involvement of such a company can help to increase the production, allowing more alcohol-based sanitizers to be distributed to the rural communities in India. For the future potential of this innovative idea, the local Indian companies can produce different alcohol-based sanitizers for different purposes, such as disinfectant spray for foods, for spraying the air, or for spraying objects or building. Also, since India lacks proper health service especially in rural areas, this alternative method that can be made easily from alcohol can help reduce the risk of COVID-19. Lastly, our team believes that

on a greater scale, India-Japan context, each country could share their experiences to fight against the global pandemic in one single way.

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Culture, Environment and Technology of India

Theme Area	Agriculture and Technology		
Title	<i>Agriculture x E-commerce</i>		
Group Number- 13	Number of Students- 6		
Kim Seong Min (71975408)	Ryo Takemasa (71675571)	Kazuya Michael Endo (71735156)	Koki Serada (71935356)
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1. Theme Background

With Covid-19 causing national lockdown and restrictions, farmers are struggling to process and sell their crops; citizens are floundering with food consumption needs and many are experiencing decreases in income.

“Rajbir Singh Hundel, a wheat farmer in Punjab, said most farmers would be anxious to unload their harvest as soon as possible, given their lack of safe storage and the need to pay off creditors.” (Financial Times, 2020)

Three-quarters of the people in the Punjab region in northern India relies heavily on agriculture. They harvest 37.8% of India’s wheat and 25% of rice. However, micro-businesses do not have access to safe storage and transport of their crops which leads to overproduction and wastage of their output. Many farmers are unable to deliver their products which leads to expiration of their goods and are forced to dispose of them.

Technology, now more than ever, can be a functional solution to combat problems with social distancing orders in place.

2. Key Societal Challenges

The key challenges we face implementing this idea in Punjab is the low literacy rate in Punjab. With over 27+ million residents and 9 million being illiterate, it will prove to be a challenge for such individuals to use the internet to sell their produce. Another challenge will be the low GDP per capita, meaning that even if the farmer may be able to read and write, he or she may not be able to afford a terminal to use the internet nor have an access point to the internet available to them at home or at a stable enough connection.

Due to Covid-19, farmers are dumping excess vegetables that were not able to be sold. There was an approximate 50% dip in demand for fruits and vegetables. One farmer experienced a loss of Rs 1 lakh per day which equates to 143,000 yen. This shows a huge problem as that is not a small amount of money to be losing every single day. All of this is also further set back by the travel restrictions imposed by the government. Schools are also closed due to Covid-19, meaning there must be a different way that every individual can meet up to make this innovation idea feasible during this challenging time. Foreign laborers are also affected by Covid-19, which in turn affects the farmers as well because foreign labourers are willing to work for a lower price than their local counterparts.

3. Key Social Innovation Idea

Addressing the key challenges for COVID-19, we targeted the Punjab region in northern India.

Background :India Punjab region relies heavily on agriculture (Three quarters of the state population are involved in agriculture). Mainly harvest wheat, (Often called India's bread basket). 37.8% of India's wheat, 25% of rice, and comes from 1.4% of total area.

As they have the lowest level of hunger in India, and relatively well developed infrastructure, we will be targeting small business owners; agricultural farmers in rural areas.

Covid-19 put rural economy plummeting, unemployed labourers, marginal farmers are affected by decrease in sales and dumps the vegetable due to bad storage system,

Supply chain getting weaker, leads to less for labourers. Transport bans make it challenging to go across countries as Punjab wheat agriculture supplies worldwide. Milk farmers delivering in small quantities are scared of police. (Dumping goods often occur)

The innovation idea:

Collaboration with the local communities, make temporary make-shift vegetable markets near the villages. To further enforce social distancing, an online market made by students in nearby universities to connect potential clients and farmers. Although E-commerce is fairly well developed in India, the purpose of this idea is to connect local communities and to provide cheaper, safer food to the customers.

Farmers are able to sell their products and make a living, customers are provided with safe locally harvested goods at a cheaper price, labourers without jobs can deliver. Furthermore it is a learning experience for students in the current situations of Covid-19.

3.1. Practical Implementation

The fulcrum of the discussion as to how this idea can be implemented lies in the ability of our idea to develop a solid user base and how well it can facilitate a communal connection amongst the users. To full-fill this the platform used for the online market needs to meet certain standards such as it's ease of use, cost effectiveness, and ability to facilitate interpersonal communications that build connections.

In terms of the development of the platform, the hyperloop development competition could be used as a good model, in which groups of students from a local University such as IIT Ropar (Indian Institute of Technology) can compete with each other to develop a suitable platform, and the best will be used as the base for the final products with every competing group working together to finalize the development of said platform. The funding and research involved in this could be secured via private investment or charity.

The actual interface between the online marketplace and its users (the farmers and the locals) also needs to be taken into consideration. What is the primary platform that the online marketplace will be on? Will there be both mobile and desktop versions of the market? How will the users get access to computers or smartphones to be able to use the marketplace?

Firstly the deployment will most likely be deployed on a mobile platform, as expecting every member to be able to utilize a desktop or laptop system may be impractical given the expected variances in computing environments. To be able to procure the smartphone devices the online marketplace participants could use, they could be subsidized by charity groups or private firms,

using low-cost models. Alternatively given how cheap modern smartphones with enough capabilities are, the application they use can be optimized to run on very low-end devices.

The model that the application will follow can be based off numerous free market application like eBay, Merukari, Craigslist, etc. the effectiveness of their systems are already proven and would also be a good guideline for any university teams attempting to develop this application.

3.2. Future Potential in India-Japan context

This innovation will change the way Punjab farmers sell their crops. E-commerce will not just be the solution to COVID-19 situation, but will also change the future of Indian agriculture.

After the lockdown due to COVID-19, the project will go nation-wide. Consumers will have easy access to agricultural products for a reasonable price. By encouraging consumption, Indian agricultural market will grow and thus allowing owners of farms to employ more workforce in need of income.

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Culture, Environment and Technology of India

Theme Area	Environment/ Technology			
Title	<i>QR Code Sustainable Consumption System</i>			
Group Number - 14	Number of Students - 5			
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1. Theme Background

Sustainable development is an issue that is universally recognized as a method to achieve a better quality of life. Some of the most important aspects of sustainable values are intergenerational equity, social integration, and international responsibility.

Unsustainable consumption and lifestyle choices have prevailed in developed countries that are responsible for a large part of environmental and social issues such as air/ plastic pollution and global warming. In Japan, “per capita plastic waste is around 30 kg per year” that contributes to contaminated oceans and the entry to the food chain. On the other hand, the World Health Organization (WHO) has described the seriousness of India’s air pollution as “having an equivalent effect to that of smoking tobacco.”

Our group wants to focus on sustainability/ sustainable development in terms of environment and or technology that can encourage individuals and the community to move towards implementing radical actions in consumption for future generations. Referring to the Sustainable Development Goals (SDGs) of the United Nations, our main objective lies in “3. Good Health and Well-Being” that attaches importance to “12. Responsible Consumption and Production.” We believe that these two goals are closely linked to each other and must be addressed at both the local and national levels. Technological advancements in the last decade have shown a great change in us by making policy implementation effective and improving the realization of our rationality. Thus, introducing new information technology can efficiently and smoothly inspire people’s greater involvement in sustainable consumption systems.



2. Key Societal Challenges

The first key societal challenge that we may face is the systematic issues or the social structure. Many forms of government are operated on different principles. Especially in relation to the separation of powers and income level, people's freedom of choice can be restricted by the government. Least developed countries (LDCs), or developing nations, compared to More Developed Countries (MDCs) do not have a well-functioning government that can build institutions strong enough to deliver accountability. Furthermore, not all countries are wealthy enough to have the luxury of choosing what products to purchase and consume physically. In the same vein, the nations do not hold the same amount of political power over people that can lead to successfully executed policies. This difference among countries can affect the ability to support infrastructure projects and generate investment to encourage such sustainable consumer behavior. Doing so is also both costly and time-consuming. For example, India is currently ranked as the second-most populous country in the world and is expected to surpass China's population within several years. The higher the population, the harder and slower it will be to implement government policies in changing the social system or the current consumption patterns. India may prioritize other problematic areas than environmental issues and step up its efforts to deal with improving the socioeconomic status as well as place higher importance on the poverty problem. Besides, the politicians in modern democracies such as Japan and India are likely to want to devote themselves to getting re-elected, making populist policies over the right long-term policies of environmental management and social reform a priority.

Another concern is that people in developed countries have a different mindset from those of less developed countries. Therefore, changing the mindset of the population on sustainable consumption is not as easy as it seems, assuming that a consumer's decision weighs heavily on the price of a good. It will become the government's challenge to get active support from the community leaders to raise public awareness of the concept of sustainable consumption.

3. Key Social Innovation Idea

Our group's initial thinking for our social innovation idea was to make a system, involving the government, the private sector, and the academic community, that either encourages consumers to purchase products that are considered more sustainable or notify the consumers on the sustainability of a product. We thought it was imperative that we involve these three sectors of society to make the most realistic changes to our consumption patterns because modern society involves large-scale and complex systems that cannot allow only one of them to tackle such universal problems.

With the above philosophy in mind, the specific idea we propose is a color-coded QR code system that will notify consumers of both the general sustainability of a product and its specific criteria of sustainability that it has met. The QR code labels will either be green (good) or yellow (moderate) and will respectively indicate whether a product is generally regarded as sustainable or is not meeting the expectations of the sustainability evaluation criteria. The pictures below are a representation of the color-coded QR codes that we want to install to share useful information with the consumers.



This will enable consumers to get informed with a simple glance at the product. In addition, if the consumer wishes to learn more about the sustainability of the product, they can simply scan the QR code on their smartphone, which transfers them to a website, and learn how the product received its sustainability rating. The following shows the criteria that the website could potentially contain scaling from 1 star to 5 stars for each criterion.

- CO2 emissions during production (as a comparison with similar products)
- Use of local goods during the production process
- Use of recycled material during the production process
- The amount of waste produced during the production process
- Production process without animal experiment/ test
- Production process either without the use or the produce of chemicals

These two functions of this system are realistic approaches to changing consumer behavior as it takes into account both people who prioritize speedy decision-making and those who think through before making their purchases.

The role of the private sector, the government, and the academic community will be explained in the Practical Implementation section.

3.1 Practical Implementation

The implementation of the QR code system can be divided into 3 main stages, each involving the three sectors of society (private, government, and academia) to a certain extent.

Stage 1 - Establishing the Framework/ Policy

The initial step in realizing this system will be taken by the government in establishing the general framework of the system, making it publicly recognized, and to discuss key questions, such as what is the range of products that will be included in the system, and why some products/ goods/ materials will not be included in this system. It is important in this stage that governments of different levels are actively participating in the discussion as different regions will have different standards and different markets for consumer goods, which will have a direct effect on how the system will be implemented across a wide region. Additionally, some international government dialogue is also encouraged for the exchange of ideas and mutual understanding regarding the QR code system. Legislation should also be passed in this initial stage (preferably at the national level) containing initiatives about how to successfully realize the QR code system. This legislation, however, will most likely differ from country to country as each has its unique political environment and social structure. An example of such legislation is one that asks all companies who refuse to print the QR labels on their products to submit a form including reasons for why they are unable to.

Furthermore, in this initial stage, the government will need a special focus on the education sector to educate people about the idea of "sustainability". This process will be needed as introducing the purpose of making a sustainable choice and the value of the new implementation will lead to an effective change in the consumer's behavior. Once the importance and value are recognized, not only that it will bring the QR code system to a more meaningful innovation to the country, but it will also lead consumers to become more aware of problems that are occurring in the country. Without people understanding the meaning in their actions, their preference or unreliable evidence will become the source when rating the product, which creates the rate to be untrustworthy. Thus, education will also play an important role in this stage.

Stage 1 is also where academia engages in partnerships with vendors to help establish the criteria that determine the sustainability of various consumer products. The involvement of academia (specifically environmental specialists and sociologists) in the creation process of the rating system is essential to keep the assessment criteria based on scientific evidence and is independent of private interests. The public announcement of academic organizations that are associated with the creation of the star-ratings system will also serve to make the system more reliable and secure from the perspective of consumers once it is executed in real life.

Academia will also collaborate with the private sector to help build a separate system for the private sector that will ease the process of accurately evaluating the sustainability of the product. The specialists involved in this step will most likely involve big data, machine learning, and database specialists so that the evaluation process of the products can be automated to a certain degree.

Stage 2 - Execution of the Framework

The key players in the execution of the framework will be the private sector and the government. The role of the private sector will be to continue printing the QR codes on the products. The government's role, on the other hand, will be to enforce the QR code system. This means that the government will have an onlooker organization that tracks whether the companies creating consumer products are indeed following the framework set out in regulations. Besides, this branch will also have the ability to give some kind of penalty to companies that are not following the framework as a result of their irresponsible behavior. The specific penalties most likely differ from country to country and will be pre-determined by the legislation passed in Stage 1.

Stage 3 - Analysis of the Framework (once implemented)

The last stage may be the most important, considering the long-term implementation of the QR code system. At this stage, a critical evaluation process will be made on the entire QR code system by the big data specialists, statisticians and economists, thus clarifying whether the system has truly contributed to a significant change in consumer behavior to alleviate the negative human impacts on the environment. This stage can also be considered a point of reflection for all stakeholders in the system to see what parts have worked out and failed. Taking this crucial step is the key to make the system robust under refurbishment work.

As environmental research progresses, it is imperative to constantly improve on the standards set out in the private sector. In conjunction with the government, academia can consistently monitor the changing standards in environmental science and update the guidelines for companies to follow. By doing so, private sectors too will have to constantly find ways to improve their products to stay ahead of the system.

3.2 Future Potential in India-Japan context

India

As India becomes wealthier over time, the consumption pattern is likely to resemble that of the MDCs of today. Therefore, social innovations like the one introduced in this project have the potential to prevent India from making the same mistakes as the MDCs of today.

It will be necessary for the country to become familiar with sustainable actions as they become wealthy. In Japan, although sustainability is relatively familiar to people, still, environmental problems are one of the issues that are heavily concerned in the country. The key here both in the two countries is to build a concrete idea of "what to protect and how to protect" in the community, which can naturally lead to creating a sustainable consumption habit in the society which can be inherited to the next generation.

Japan

If the QR code system were to become successful in India, the technology can potentially be implemented in Japan as well. With a rubric system that is designed to be constantly updated, it can easily be refitted to be more relevant to the Japanese private sector. For example, as Japan looks into how it can contribute towards the sustainable development goals, habits such as the use of excessive packaging for aesthetics purpose are facing criticism from many parties, such an area can be a big focus within the rubric. By placing a higher weightage on certain key issues within certain societies, in the case of Japan, it is possible to tackle issues in where they matter the most without being seen as tone-deaf to the local problems.

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Air Pollution in India:
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Sustainable Products:
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QR Code Images:
Green - <http://www.smartpayinvestor.com/wp-content/uploads/qr-code-web-green-png.png>
Yellow - <https://pic.pimg.tw/quickmark/1374653555-4085939061.png>

Culture, Environment and Technology of India

Theme Area	Culture, Technology		
Title	Indian Educational Social Media Platform		
Group Number- ____15____	Number of Students- 6		
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1. Theme Background

With India's internet penetration at an all-time high of 50%, it is not a surprise that over 50% of its population (687m) uses the internet. Despite this, Indians mostly utilize foreign social media applications, like YouTube (82% of the population uses it), with only Facebook (76%) and Whatsapp (70%) right behind it. There is an immense demand for internet use in India, as explained by Sandhya Keelery in his article on statista.com, where he details such numbers. He highlights that 72% of internet users as of late 2019 were male, while only another 28% of users were female - though these numbers were taken from a rural area. It is slightly more even in urban areas, where females take up 38% of internet users and males constitute 62% of them.

With that in mind, what then does the internet offer as a platform? Amongst video sharing websites and social networking platforms, one constant stays true: the share of information is immense. The effect of such a stream of information is not to be underestimated - the New York Times kept track of the growth of open online learning classes from 2012, starting at zero, all the way to 2017 where it settled at 9400. This shows a great demand for utilizing specialized sites for the sole purpose of education, and with India's immense internet penetration, it is only a matter of time until India becomes the next forefront for the utilization of social and internet platforms for the purpose of education.

2. Key Societal Challenges

There are many widespread societal challenges in India that are affecting more residents every day. From low income jobs to lack of education, it is an understatement to say that these are enormous issues. In India, 71 percent of adults do not have secondary education, while in Japan almost all adults have high school degrees. In consequence, this reflects India's current societal issue. Paramount resources like education are important because individuals of society will only understand what is taught.

The number of individuals facing poverty in India are reaching extreme levels due to the country's corrupt employment system. Specifically, jobs in India are relatively scarce and pay very little. The average yearly income in India equates to just \$2,000 a year, in comparison to \$58,000 a year in the US. Because income levels are extremely low, individuals in India have a much harder time accessing important information occurring around the world. In our current society, most people get their news or educational information through social media. However, a large percentage of people in India cannot afford to pay for important resources

such as the internet and technology (phones, tablets, laptops) to access and understand helpful information. Therefore it is important to create an affordable and accessible way for individuals in India to receive important news and information.

3. Key Social Innovation Idea

In addressing the lack of access to information, we have come up with the idea to create a platform specifically for people in India to be able to get important information in a convenient way. Although India's internet usage is high, the websites that are most accessible at the moment are youtube and facebook which are both foreign sites. Our goal is to incorporate many of the aspects from the most popular applications to provide materials and data from around the world in a convenient and engaging way, tailored to the people of India.

Our platform will be available both as a website that could be accessed through search engines as well as an app that is user-friendly and able to send notifications of major international news articles as well as information on specific topics, depending on the user's preference. Unlike other news sites, however, this platform will also include the entertainment factor of youtube videos and bollywood films, as well as a social aspect to make the information easier and more enjoyable to process. The app will contain three tabs at the bottom of the screen: "home", "search" and "profile". The home page will display the most relevant information at the top of the screen, where users will be able to scroll through different articles and save it onto their board. The search tab can be used when users are looking for specific articles or topics. On the profile page, users will be able to create albums and sections using the articles they have saved to make the information more convenient and aesthetically pleasing, and they will also be able to customize the board, by choosing different themes and colors. Users can also search for their friends' profiles, and follow them to see what stories they have saved.

When the user clicks on an article, it will display recommendations for other articles similar to it, as well as a response section where people can upload videos of themselves summarizing the article, and giving their own input. Other users can watch the video as a supplement to reading the article, and they can like the video by marking it "useful" or comment on it. This creates a flow of information in written text along with videos that people will have easy access to.

3.1. Practical Implementation

A platform that provides various information in a convenient and entertaining fashion will be very popular in India because an application like this does not exist in India as of now, making it a different and unique attraction for Indian people. By using the App Store and Google Play, which are the major apps that most people are familiar with, to distribute our platform, it will meet the current needs of Indians, such as a lack of information and jobs.

This platform can create an immense positive impact on the society of India. With the activation of this app, each person in India will be less likely to develop a "lack of information" phenomenon, where a considerable number of people in India cannot even receive a secondary education. The application will give people the effect of obtaining the necessary information and studying on their own, while watching amusing videos and connecting with friends. From the company's point of view, the success of this application will create many subcontractors, and as these relationships become active, the demand for jobs in India will increase by taking advantage of the fact that it is an Indian company. Furthermore, from a national perspective,

as the application becomes more competitive with other platforms, it is expected that the market share in foreign countries will increase so that the money flowing from overseas will increase, consequently improving the economy, which will be largely linked to the minimum wage hike.

3.2. Future Potential in India-Japan context

This platform will not only be educational and entertaining, but will also be the center of life for Indian people. Specifically, Indian people will be able to connect with people and find life partners through this platform. It will not only update people about current events, keeping them informed while browsing through articles and videos, but it will also bring more wealth to India by creating job opportunities and increasing the chance to network with people, just as Alibaba has brought more wealth and jobs to China.

This increase in connections may lead to a greater Japan-India interaction, in which people could potentially conduct business and create long lasting partnerships. For example, if India develops excellent science and mathematics education services through the platform, its know-how can be utilized in the Japanese education scene. Companies, both Indian and Japanese, can also get in contact with one another through this platform, which can build a foundation for more improvements and innovations that could potentially lead the way for a better lifestyle.

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Culture, Environment and Technology of India

Theme Area	Culture / Environment / Technology / Others (Please specify) _____		
Title	Import Bollywood to Japanese Theaters		
Group Number - 16	Number of Students - 6		
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Wonchan Choi (71835503)	Ryoka Nakamura(71735670)		

1. Theme Background

Just like Hollywood, India's movie industry is one of the biggest ones in the entire world, yet it provides a whole new sphere of entertainment with its vibrancy, drama, and music. Contrary to its western counterpart, Indian films are better recognized by their spectacle, offering perhaps more intense stories that not only showcase the Indian culture, but they also teach key social values with their very characteristic choreographies and drama scenes. Because of this, Indian films have begun to get more traction outside of India and people have become more aware of this source of entertainment.

It is also worth noting that the Indian film industry pulls out around 1,800 digital films each year. This is possible because of the large market readily available and it is more common in India for people to watch films at a theater rather than on streaming platforms. One of the key incomes for film industries is ad revenue, and since watching these films in a theater provide a better experience for watchers, this might explain one reason attendance rates remain high for Indian films in spite of the emergence of streaming platforms.

2. Key Societal Challenges

There are several societal challenges for revitalizing the Japanese movie industry using Indian culture.

As we can feel, watching movies in the cinemas in Japan is getting more expensive. Last year, the cost of a movie ticket in Japan increased from 1,800 yen to 1,900 yen, whereas the cost of a movie ticket in India is under 500 yen due to the culture and population. One of the main cause of the fee rise in Japan is the streaming platforms. If you look at the monthly fee of them, it is way cheaper than watching one movie in the theater(Netflix is 800 yen). Many people using this streaming platforms tend to be satisfied of the price and quality. So these people don't have a reason to go to the theaters any more. This makes a downward spiral in the Japanese movie industry. (Number of audience decrease because of the fee, but cinemas have to increase the fee to continue. As a result more people leave the cinemas. And it goes on.) Considering a long term perspective, this can lead to a Japanese movie cultural decline. Opposite to Japan, India has a developing movie industry just as the explanation in the theme background above. The import of Indian culture can be a breakthrough to the Japanese movie industry. A Bollywood trend in Japan can lead people coming to the movies.

The high share of Japanese films in Japanese theaters may be another challenge we have to overcome. The share of Japanese films shown in Japanese theaters is quite high compared to other countries. According to Motion Picture Producers Association of Japan, the share of Japanese films in Japanese theaters is 54.8% as of 2018. This value is high compared to that of Italy (23.2%) and Spain (17.6%). And in the long run, the share of Japanese films in Japanese theaters has continued to rise, up from 31.8 percent in 2000 to 54.8 percent in 2018. In other words, it can be interpreted that the Japanese like Japanese movies. This could be a challenge for us to introduce Indian films to Japan. A good approach is needed to address this.

3. Key Social Innovation Idea

Our goal is to impulse and promote the Indian Film Industry inside of Japan. As said before, Indian films due to their more dramatic glitz and spectacle provide a different atmosphere which is perhaps more enjoyable to watch on a theater surrounded by a crowd, hearing and participating in the reactions of the different scenes, choreographies or moments of the film. In this sense, we think that Japanese people might enjoy Indian films better in a theater as well, providing theaters an alternative to raise revenue and providing people with a new source of social entertainment in theaters that might as well not let this activity continue flopping like how it has decreased with the uprising of streaming platforms.

Moreover, just like how Japanese films, anime and manga have influenced or informed people all over the world about the Japanese culture, the same could happen inside Japan with Indian films. For example, with the rise of anime in today's pop culture, Japan has become a more attractive destination for foreigners, picking up interest from others in wanting to work, live or just visit the country. Similarly, the same effect occurred with the popular film *Slumdog Millionaire*, which although it was made by a British producer, it taught through the eyes of Jamal Malik, a teenager brought up in the slums, a series of elements from the Indian culture, society, religion, language and also shares some characteristics found in a properly Indian film. This world-wide-known oscar winner taught the world about the religious diversity, social classes, interpersonal interactions and communication that one can find in such a diversely rich country like India. In our perspective, if Indian films become more popular, the same effect will happen all around the world, increasing knowledge and interest in the Indian culture.

3.1. Practical Implementation

As we mentioned earlier, Indian movies has a totally different culture which can attract and catch interest from Japanese. But how can we start? The key would be, "making a reason to go to the cinemas". These days people watch movies on their smartphones and tablets with satisfaction. They don't have a reason to go to one. If the cinemas can provide something special, we can expect more audience showing up.

In this case, something special can be a active experience. When watching movies in Japan, the atmosphere requires you be calm and quiet. But in contrast, India has a style called "masara screening"(not all Indian cinemas do this, but some parts of india does it comonly). During the "masara screening" the audience can sing and dance, make noises, fly balloons, etc. Almost anything is aloud if you keep the rules. This turns a movie into a activity. A totally different one, compared to japan.

Some japanese cinemas are trying out this style, but the popularity among japanese is not that high. In 2016, a theater in shinjuku was featured in the news for doing something similar. "シン・ゴジラ (Shin Godzila)" was screened with a permission of making noise (no dancing). The audience were enjoying the new type of show. As you can see from this situation, a new type of movie show has the potential to attract people.

In conclusion, using the Indian type of screening which has a good compatibility with the bollywood movies, we can expect more movie audience. And this will lead the Indian movie trend in Japan.

Yet usually in Japan, people were required to be quiet while watching the movie in the cinema, there are some particular movie that has similar to "masara screening". That's animated movie especially for kids. Since the story plot of the story is a classical heroic movie, main character as an hero going to save world from bad. What they were doing during the movie was before kids get into cinema they will pass them a "magical light", so when the story getting to climax kids can use those "magical light" to be "part of the movie". In the first year when production implemented this goods, the performance income has been increased

compared to previous year from 300 million yen to 800 million yen. It shows that in some point involvement to the movie can be a way of to improve in both industry and audience. Though this was only done in the category of animated movie particularly for kids, by implement this new style to wide age generation also can be benefit to whole japanese movie industry.

3.2. Future Potential in India-Japan context

Joseph Nye (2004) coined the term *soft power* and said that soft power lies in the ability to attract and persuade, which arises from the attractiveness of a country's culture, political ideas, and policies. The power of culture is strong. Culture changes people's thoughts, increases the depth and breadth of understanding, and sometimes even becomes a means of governing people. And movie is a representative product of culture. We experience the country indirectly by watching movies from other countries, which in turn leads to internal intimacy towards the country. If a large number of Indian films are screened in Japan, it will have a great impact on improving relations between India and Japan in the long run.

In fact, there are many cases in which soft power affects international relations. One typical example is France. Joseph Nye (2004) said of France, that "in the 17th and 18th centuries, France promoted its culture throughout Europe. French not only became the language of diplomacy, but was even used at some foreign courts such as Prussia and Russia. During the French Revolution, France sought to appeal over the heads of governments directly to foreign populations by promoting its revolutionary ideology." And after it lost the Franco-Prussian War, it was said that the French government sought to repair the nation's shattered prestige by promoting its language and literature through the Alliance Francaise, which was created in 1883 (Nye, 2004).

Relations between countries are not measured only by material things like money. Non-material things such as history, religion, and language also have a great influence on relations between countries. And among the non-material things, culture has the greatest impact on relations between countries. In particular, culture is of great importance in that it can be converted into the material at any time. When a country's cultural elements become famous, businesses related to them become more active. There will be huge economic effects if exchanges in films between India and Japan, both of which have the world's leading film industries, become more active.

Indian films themselves are distinct from those of other countries, and the unique atmosphere of Indian films makes Indian films even more special. Indian films, along with humor, deliver impressions and lessons to audiences, which could work well in Japan as well. If a number of Indian films are screened in Japan, they are expected to serve as a lubricant for India-Japan relations in the future as well as the great economic effect.

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Culture, Environment and Technology of India

Theme Area	EduTech		
Title	Japan x India : Mobile Learning Initiative		
Group Number- 17	Number of Students- 5		
Nora Berlin (71976233)	Takumi Harthan (71875637)	Oyumaa Batdelger (71735786)	Bamidele Opeyemi Ruth (71835622)
Kotori Kawaguchi (72002538)			

1. Theme Background

We decided to focus on improving access to quality education in India, especially rural regions with high levels of poverty and poor literacy. Literacy plays an essential role in helping to achieve the Sustainable Development Goals (SDGs), and hence we thought that improving the level of literacy would improve the quality of life through better education. India is considered to be one of the top players when it comes to the market for online mobile gaming with the current number of mobile gamers estimated at around 326 million (Statista, 2020). Mobile data is extremely affordable in India with a well-developed and wide-reaching mobile network infrastructure. Additionally, out of the 604 million internet subscribers in the country, 582 million access the internet through their mobiles.

Upon reading a publication by the University of California, titled “*Mobile Gaming with Children in Rural India: Contextual Factors in the Use of Game Design Patterns*” , we were able to gain a better insight into the situation of education in India and how mobile gaming could help to improve the situation. The publication mentioned that there were two major factors which contributed to difficulties in government schools in developing regions, especially with ESL (English as a Second Language). One factor was the non-regular attendance in schools due to the need for work to support the household and disinterest in work. The other factor was the qualifications of the local ESL teachers who were unable to communicate in English without interpreters.

As a result of our research into the problems faced in education in India, we thought that an effective way of improving the literacy rate would be through the integration of mobile learning into mobile gaming - providing educational access to the youth and underprivileged in India.

2. Key Societal Challenges

According to the Oxfam report, India is considered one of the largest illiterate populations. Its illiteracy can be particularly denser in the rural areas in most of the states. In an Economic survey conducted in 2016, India reportedly spent 10.2% of its budget on education. Considering most of the OECD countries spend 11% of its government spending, India is still being left behind. One of the main key challenges for our team is lower enrollment rate in rural India. Although students are enrolled in the beginning of school, many do not remain in school or even never went to school. As shown in the National Family Health Survey-3, around 11% of 6-16 year old students dropout of school and 14% of Indian children have never entered school.

3. Key Social Innovation Idea

A mobile game for children aged 6-12 launched in India and Japan to enhance English literacy in both countries. The game's storyline would follow an Indian girl and a Japanese boy through their daily lives while introducing key societal concepts from both countries. The user will through mini-games learn how to read and spell English while also being exposed to the opposite culture, which allows the user to increase both their literacy level and also level of cultural awareness and understanding. Ideally, this will also help the user to gain interest in foreign culture and society, motivating them to play and further develop motivation towards the learning process.

3.1. Practical Implementation

Initial funding for the development of the mobile app will be through crowdfunding and partnerships with NPOs, which share values that align with our theme of educational access. Although developing the mobile app may not be a significant challenge, we think that marketing the app, and actually getting children/users in the rural regions to use the app will be a challenge. Therefore, a significant part of the spending will be allotted to marketing in the rural areas.

The Microtransactions within the game would let the user customise its characters. These transactions would finance marketing and maintenance costs.

Collaboration with local charitable organisations to distribute mobile devices and also spread awareness about mobile learning is also a key part of our strategy. As rural communities will be difficult to enter without local support, local collaboration will be necessary.

3.2. Future Potential in India-Japan context

The game is not only an educational tool but a form of cultural diplomacy that strives to encourage the exchange of ideas, promote knowledge of cultures and build bridges between communities. We believe this game's cultural aspects will improve the international ties between the two countries within the younger generation and build a strong foundation for future collaboration.

Furthermore, this gamification of education and international relations is a tool which can be expanded to include other target groups. As an example, We believe a game aimed towards girls with the objective of teaching female empowerment have potential India-Japan context.

Further, this game initiative is not exclusive to Japan and India. It is possible with further development to include new areas like Europe and Africa.

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Culture, Environment, and Technology of India

Theme Area	Environment/Technology		
Title	ESG Funds as means to improve Air Pollution in India		
Group Number- <u>18</u>	Number of Students- 6		
Ji Yoon Lee 71976428	Shaan Rauf Barca Perlambang 71735892	Doyoon Lee 71775013	Lim Seok Young 71835767
Mio Suzuki 72004879	Park Hyungjoon 71875702		

1. Theme Background

Air pollution has been a serious issue in the world for a long time, but it is an even bigger problem for India. In 2017, the Indian chief minister described New Delhi as a “Gas Chamber” as the air pollution level in New Delhi has been recorded to be 48 times higher than the guidelines set by the WHO¹. In detail, 13 out of 20 most polluted cities are located in India², and the situation in other Indian cities is no better than New Delhi. There are various causes to creating air pollution, ranging from indoor to outdoor activities. Major examples of the indoor causes involve kitchen emission (use of biomass) and fire, specifically from the poor use to keep warm during winter, while the outdoor causes include crop burning, industrial pollution, and vehicle fumes.³

2. Key Societal Challenges

India has already suffered severe economic and health impacts due to air pollution. On the economic side, work productivity has declined, since policymakers focusing on environmental regulations should factor in affecting industrial productivity. In 2013, air pollution cost 560 billion dollars and in 2016 alone air pollution costed 8% of India’s GDP.⁴ Recently, it costs 150 billion dollars a year⁵, which is significantly reduced from the previous decade but still remain high compared to other countries. In terms of health, air pollution has

¹ Kuchay, B. (2019, November 01). ‘Gas chamber’: Pollution hits record high in New Delhi. Retrieved July 19, 2020, from <https://www.aljazeera.com/news/2019/11/pollution-hits-record-high-new-delhi-191101135202148.html>

² Chauhan, C. (2015, June 05). 13 out of world’s top 20 polluted cities in India, only three in China. Retrieved July 17, 2020, from <https://www.hindustantimes.com/india/13-out-of-world-s-top-20-polluted-cities-in-india-only-three-in-china/story-myTrPZM8DHmQOhxB9cc5h1.html>

³ Sidhu MK, Ravindra K, Mor S, John S. Household air pollution from various types of rural kitchens and its exposure assessment. *Sci Total Environ* [Internet]. 2017 May;586:419–29. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0048969717300517>

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⁵ N. (2020, February). Air Pollution from Fossil Fuels Costs India \$150 Billion Annually: Report. Retrieved July 20, 2020, from <https://www.news18.com/news/business/air-pollution-from-fossil-fuels-costs-india-150-billion-annually-report-2498961.html>

ranked the 5th largest killer in India, about 2.3million deaths in 2019⁶. Specifically, air pollution has made seriously negative impacts on children’s health in terms of height-for-age, weight-for-age, and even life expectancy. According to the Indian journal, THE TIMES OF INDIA, due to air pollution in India, the DALYs (disability-adjusted life-year lost) doubled from 1995 to 2015, developed disorder and even increased cardiovascular mortality.⁷ Affected significantly from air pollution for a long time, India needs to find more efficient and effective solutions than current regulations and activities to reduce such hazardous situations, by collaborating with Japan.

3. Key Social Innovation Idea

India’s air pollution is caused by multiple reasons, from domestic reasons like kitchen emission to large scale industrial emissions. Providing a happy seeder machine can prevent farmers from burning crops and providing a clean stove can reduce kitchen emission. Yet, it still does not prevent other causes and is not an effective solution to air pollution. To alleviate such issues, the solution has to be a collective one: the mixture of all the individual solutions stated above. The social innovation idea could be for a certain nation (Japan) to start an Environment, social, and corporate governance fund (ESG fund) that heavily invests in all of the innovations stated above.

According to the economic journal in US, CNBC, in 2020 1Quarter, 105billion dollars influx of capital took place⁸. Professionals state that companies striving to resolve environmental problems have successfully attracted investment and at the same time survive through pandemic situations. Air pollution has been a big problem in India. With government’s support, more ESG funds should take place in order to attract more investors. If capital gets bigger, not only society’s interest follows but also more innovative ideas will follow.

3.1. Practical Implementation

The collaboration between India and Japan could begin first at the university level, a research collaboration between a university in Japan and one in India. Researchers could come up with a way to reduce the use of biomass in India or to create energy-efficient farming methods. Collaboration between companies is also possible. Japanese companies could provide happy seeder machines or clean stoves to Indian citizens. All these collaborations could be conducted through government ESG funds. Governments’ ESG investment style will motivate companies in India to use green technologies and Japanese companies could be the provider for those technologies.

Recently, Japan has been consistently working on their mass production of Cellulose Nanofiber (CNF) . It is a material composed from hardwood fibers with the characteristics of being a light, heat durable, high gas properties biomass resource. This material is expected to be utilized for vehicle segments, architects, consumer electronics, acrylics, everyday

⁶ “India suffers most pollution-linked deaths in world, study finds”, last modified December 19, 2019: Available from: <https://www.theguardian.com/world/2019/dec/19/india-suffers-most-pollution-linked-deaths-in-world-study-finds>

⁷ Borwankar V. “Air pollution killed 81,000 in Delhi & Mumbai, cost Rs 70,000 crore in 2015.” Times of India [Internet]. 2017; Available from: <http://timesofindia.indiatimes.com/city/mumbai/air-pollution-killed-81000-in-delhi-mumbaicost-rs-70000-crore-in-2015/articleshow/56656252.cms>

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consumptions such as napkins. Hence, with the use of CNF, the country will be able to expect less reliance on oil resources and nonrenewable wastes.

3.2. Future Potential in India-Japan context

India seems to be an attractive country, but air pollution is a major challenge that dissuades a lot of people to work in India. If air condition continues to worsen, little to no people would like to move into India. However, at the same time, this problem is an opportunity to further increase the interaction between India and Japan. Since Japan already dealt with air pollution successfully since the 1970s, Japan can provide the know hows and the equipments to improve the situation: promote the use of happy seeder machines and clean stoves. With these implementations, India could improve its company performance and motivate them to find more eco-friendly methods or conduct research collaboration with Japan. Japan is yet working on mass producing CNF cost-effectively, as well as finding a stable market. Indian companies can tag along in creating so, and invest in a domestic market for CNF to further vitalize the economical bond between Japan and India.

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Culture, Environment and Technology of India

Theme Area	Poverty		
Title	Reforming the Micro-finance & Insurance industry		
Group Number-	19	Number of Students-	4
Lek Hong (71825782)	Ayane Ataka (72040108)	Yuuki Takashima (72005215)	Ma Yue (71735914)

1. Theme Background

Poverty is often mischaracterized as the result of laziness and myopia amongst individuals with large capacity for change. In India as the second most populous country after China, the economic miracle created in recent years is undeniable. At the same time, its outstanding poverty problem has also attracted the attention of the world. On one side is the prosperity brought by rapid economic development, while on the other side is the crippling poverty rates. 68.8% of the Indian population lives on less than \$2 a day and over 30% even have less than \$1.25 per day available. Beyond factors such as caste discrimination, religious beliefs, incomplete land reforms, and defects in the distribution system, there's a phenomenon of cycle of debt among street food vendors (amongst the poorest segments of the population) in India, which is preventing the poor from attaining economic independence.

Many street vendors in India rely on daily or weekly loans from moneylenders to finance working capital, which is the equipment (carts/baskets, mats, etc) used in day-to-day operations. In a case study of fruit and flower vendors in a market outside Chennai, India, vendors used loans from the moneylenders to import products at 1,000 rupees and sell them for 1,100 rupees. After that, they are required to return 1,050 rupees back to the supplier. On average, vendors continuously repeat this cycle for 10 years. Given the high interest rate, it is difficult for these entrepreneurs to save their way out from debt. If they saved just a little more or borrowed a little less they would soon be debt-free and could double their income.

This peculiar financial behavior seems to have a logic of its own — this need to focus on the day to day, and not having the capacity to adjust over the long run. We believe there are low-cost systematic changes that can be put in place to alleviate this situation and improve people's perception of poverty.

2. Key Societal Challenges

In this reforming plan, one of the challenges is that the street vendors are not able to plan responsibly for long term financial stability and get out of debt. An experiment conducted with these vendors and their counterparts in the Philippines, which involved providing financial education and giving cash grants to indebted vendors, the result showed that vendors return to borrowing even after their initial debt was entirely paid off. Another challenge is that vendors are vulnerable to external, idiosyncratic economic shocks such as sudden need to donate for a wedding, medical bills, and so on.

What existing strategies lack: Another perspective on poverty

While one half of academic discussion claims that poor people are perfectly rational and make perfectly reasonable cost-benefit decisions based on their circumstances, the other half focuses

on this culture of poverty that is based on poor values and lack of planning. We believe that there is a third alternative. We don't think anybody is perfectly rational, and there's no reason to think the poor are terribly pathological or unusual in any special way. What if we just think about them as confused and biased, as we all are, and that when you make those mistakes in the context of poverty, the consequences are much more severe than when you have more comfort.

3. Key Social Innovation Idea

In order to improve these situations, we want to focus on building long term financial stability and adding social protection policies to the insurance markets in India.

To reform the microfinance industry, we want to fend off predatory lending and create automatic savings accounts for vendors to deposit earnings or spend them on capital goods. In this way, vendors are cut off directly from the unscrupulous moneylenders and are able to develop economic independence. Automatic savings accounts and loans at reasonable interest rates allows vendors to build up savings without much cognitive effort, an important point given the amount of mental juggling vendors have to do in the context of poverty.

Then, we want to create an insurance market in which vendors can pay fair premiums to insure against large idiosyncratic setbacks and stop borrowing cash. This prevents them from going back to borrowing should sudden expenses appear, even if they are debt-free as a whole. As an underlying concept for our solution, we are aware of the scarcity mindset, which is the constraint in bandwidth and cognitive capacity as a result of poverty that encourages individuals to make bad decisions than those with bigger financial cushions.

3.1. Practical Implementation

To implement our ideas practically, we will start off by working with social enterprises in the micro-finance and insurance industries. These would be the start-ups and institutions with clear goals and priorities that involve balancing profits addressing social issues like poverty. Then we will offer a closer perspective on how the poor make decisions on taking loans and spending daily earnings. In addition, to address the scarcity mindset, it is essential that we make processes as easy and automated as we can. Eventually we will expand operations after demonstrating its efficacies through randomized controlled trials that compare different tweaks in loan, savings and insurance plans amongst groups of vendors.

3.2. Future Potential in India-Japan context

A carefully conducted trial performed at a large scale would have the ability to persuade local and national governments to scale up these measures and ensure these strategies improve the financial health of the millions living in poverty in India.

A Similar Crisis in Japan

Similar issues of poverty and living with no savings plague developed countries like Japan as well. According to the Ministry of Health, Labor and Welfare, 27% of Japanese workers who support their households have temporary jobs, and the number of these people increased by 1.3 million in just four years to reach 9.2 million in 2014. One in seven households have no savings. Similar to predatory money lending services in India, The payday loan industry has risen in popularity and notoriety amongst lawmakers and employment agencies alike in Japan. A

payday loan refers to the act of taking out one's wage in advance of payday (perhaps on a daily basis) because individuals rely on paychecks constantly to handle their expenses. Taking an advancement on wages costs 3-6% interest, they play a part in preventing an accumulation of savings. Therefore, further research on the financial behavior and biases amongst the poor in Japan together could point to similar trials.

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Culture, Environment and Technology of India

Theme Area	Culture / Environment / Technology / Others (Please specify) Women's safety		
Title	<i>Women's safety in India</i>		
Group Number-	20	Number of Students-	5
Josephine Leung (71875953)	Keitaro Ikeda (71800413)	Fumiko Takahashi (72005269)	Kazuki Shitara (71775277)
Moe Ichikawa (71900645)			

1. Theme Background

Crimes against women is a major problem faced by women and girls across India. Multiple reports show an increase in incidents of crime, mostly sexual violence, against women and girls, with reporting doubling between 2012 and 2016. Close to 378,000 cases against women were recorded in 2018 alone, which was the highest since gender-wise classifications were initiated in 1992 by the NCRB (National Crime Records Bureau).

Crimes against women and girls in India are much more present than it may appear, as most violence are not considered crimes, or it may be undocumented due to certain Indian cultural values, beliefs, and laws. For example, marital rape is not considered as a criminal offence within Indian legal framework due to cultural values. The slow pace of operation of Indian judiciary is another factor of the increasing number of crimes against women. According to the National Family Health Survey (NFHS) and NCRB, an estimated 99.1% of sexual violence cases are not reported nor documented.

The factors introduced above all contribute to India's poor gender inequality index, ranking 122th out of 162 countries. According to a poll of global experts, India is also notorious for being the world's most dangerous country for women due to the high risk of sexual violence and being forced into slave labour. (UN Human Development Report)

In order to tackle such issues and challenges, our group decided to look into women's safety in public transportation.

With growing urbanization across India, the increasing cases of sexual violence in cities have become a serious issue. Sexual violence and crimes against women have an effect on women's mobility and accessibility to daily necessities and employment. Lack of safety and security in public spaces and public transportation affects women's human rights and their ability to participate equally in society. (Jagori, 2017)

Women and girls have a sense of fear when using public transportation because of violence and crimes. Crowded public space and transportation is often a space where women face sexual harassment and violence, because women are exposed to many threats. This has led to the implementation of women-only carriages in metro trains or women-only buses or taxis, but this is apparently not enough. Consequences of the violence and insecurity that women face leads to immobility and lack of access to their needs. (Jagori, 2017)

According to a report by the Institute for Transportation and Development Policy, a "*Safe, comfortable, convenient and affordable transport can play an important role in not only helping meet women's practical needs such as access to schools and markets, but also in*

contributing to their strategic empowerment by facilitating access to social and economic opportunities.” (Vyas, 2017) Our goal is to come up with a mode of transportation that is safe, comfortable, convenient and affordable for women across India. (Jagori, 2017)

2. Key Societal Challenges

Women in society have historically and still by many in this day are considered inferior to men with discrimination against women and girls being a common lasting occurrence that is portrayed in the Indian society. Gender inequality in India especially has led to a preference for sons over daughters resulting in many families trying for another child if their first happens to be a girl and according to a 2018 report by the Indian government, has caused the birth of millions of so-called “unwanted” girls. (McKirdy, 2018)

The lack of safety in transportation systems has been the main reason discouraging women from taking public transport and thus turning down good life-changing employment opportunities presented to them. In addition to safety, the distance and affordability, especially for those coming from low-income families have been a hindrance in achieving goals and reaching possible potential. Often, women are seen to bear more domestic responsibilities, taking care of children, the elderly, household chores adding more difficulty or inconvenience when travelling. To address this issue, Jagori, an Indian NGO working on women’s safety issues, have tried to bring the responsibility of including women in decision-making by local governance and urban planning circles and making gender equality a priority in transport planning. (Jagori)

According to a survey conducted by Ola Mobility Institute on over 9000 women across 11 cities, only 9% of women in Indian cities feel public transport is completely safe and 3% claiming that it is completely unsafe, whilst the rest answered with ‘somewhat safe’ or ‘only unsafe at night’. (Mahale, 2019) Transport industries are improving to provide precaution for women’s safety by implementing women’s only compartments on trains, offering services only available to women, however, it has not been provided to all cities and therefore not accessible to everyone.

According to the National Crime Records Bureau of 2011, “in every 51 minutes, a woman faces harassment or assault in India’s public space.” (Shah) The astonishing numbers of both reported and unreported cases involving unfortunate crimes such as violence against women including sexual harassment, rape etc. has made taking public transportation both a dangerous and difficult task for women and girls. Gender Education should be made a compulsory subject as schools are a powerful platform to teach children to understand gender roles and change the way things are perceived and treated.

3. Key Social Innovation Idea

Women only taxis are a successful business model taking place in India at the moment and is receiving a lot of attention from the female community. However, this system requires a reservation and the numbers of taxis and drivers aren’t large. Therefore, this is used mainly at airports for pickups which isn't a daily occasion for most people. However, our group thought that transportation is needed on a daily basis whether it’s for grocery shopping, going to get paperwork done, picking up children, other essentials shopping and many more which is essential for living.

We realized that Motorcycles are very popular in Southeast Asia, and many women also ride them. However, it is not common for women to ride a motorcycle in India, and the reason would be because of the sari that Indian women wear. The sari would get stuck into the back tyres and might cause an accident. Here our group will introduce a Honda motorcycle made in 1997 and is well ridden in India. This motorcycle has a sari guard on the back so that there will be no fear of the sari getting stuck into the back wheel.

Renting these types of motorcycles in India will help women accomplish a more handy, quick and safe trip to go shopping or anywhere else. In addition, by installing a GPS tracker on the motorcycle, there wouldn't have to be a designated parking area for the motorcycles. Instead, users would be able to track where the closest motorcycle there is on their phone and ride the motorcycle to wherever their destination is and leave it in the area they end up.

However, the user data will be recorded so any damages to the motorcycle will be tracked and the user will be found. In this way, we would be able to lower the costs for creating a parking area in many areas and the motorcycles will hopefully be in a handier position. Especially during the night, the user can park right in front of their house so that they do not have to walk a long way from the parking slot to their house which will be dangerous.

3.1. Practical Implementation

Rental motorcycles have been popularized in India by Yulu since 2018 with the support of Chinese companies. In addition to Mumbai, its use is expanding in major cities such as Delhi and Bangalore.

Yulu's mission is to make the mobility of Indian cities seamless, shareable and sustainable. What started as an initiative to reduce traffic congestion and pollution in Indian cities is now to redefine urban mobility across cities. People need to download the mobile app to use Yulu. Enable seamless, shared, sustainable, first and last-mile connectivity by using Micro Mobility Vehicle (MMV) through the mobile app.

Yulu is an India based company with a founding team that is passionate about creating positive social impact. Therefore, by cooperating with Yulu, Japanese HONDA will be able to adopt a motorcycle with a sari guard more quickly by using its existing system.

Yulu uses MMV custom-designed for Indian roads and is equipped with a secure locking system. Each vehicle is integrated with a smartphone app, giving you the convenience of being a rider, ready to ride when you need it. Yulu MMVs can be picked up from anywhere in the designated city, but only need to be dropped in the Yulu zone. Yulu is currently based in Bangalore, Pune, Mumbai, Bhubaneswar, Ahmedabad and Delhi. Since the Yulu system cannot be used in other areas, it is necessary to expand the usable range of Yulu at the same time as adopting a motorcycle with a sari guard in cooperation with HONDA.

3.2. Future Potential in India-Japan context

This social innovation idea (Introducing a free rental motorcycle aimed for women) has a good effect on the relationship between countries. As Hero Motorcorp (previously Hero Honda) have been taking part in development work of the motorcycle which suits for Indian culture, it will

promote technical and economic cooperation. In addition, the transportation system in Japan is also considered a big problem, especially during long holidays when highways often experience heavy traffic jams. The introduction of our social innovation idea, implementing rental motorcycles may provide us with more choices of transportation to beat the traffic and overcome other boundaries. This time we chose to focus on daily tasks that occur in everyday life (e.g. grocery shopping, going to get paperwork done, picking up children, etc.) and suggested a form of transportation system to improve how women's safety issues are currently dealt within India. The idea is not only limited to India but it can be enhanced and implemented in Japan to solve possible traffic issues.

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