

NipCA Project Public Lecture Series: The Future of Central Eurasia and Japan

Vol.18 "Water and Environmental Issues: The Case of Pakistan"

Dr. Takafumi Kondo, Ph.D., Professor, Tokyo University of Social Welfare, Japan

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On the Publication of the Proceedings of the Public Lecture Series “The Future of Central Eurasia and Japan”

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In January 2019, the University of Tsukuba launched the Nippon Foundation Central Asia-Japan Human Resource Development Project (NipCA), utilizing the results and know-how of the university's Global Education Program for Developing Multilingual Human Resources in Japan, NIS and Baltic Countries (Ge-NIS) (2014-2019) under the Inter-University Exchange Project (Russia) of the Ministry of Education, Culture, Sports, Science and Technology - Japan.

The NipCA project is committed to fostering human resources who can play an active role in the development of their societies through various activities including dispatch and acceptance programs. “The Future of Central Eurasia and Japan” public lecture series is one such activity designed to promote a deeper understanding of the SDGs and efforts contributing to the achievement of the 2030 Agenda. During the first year of the NipCA project, a total of 10 lectures in this series were held. However, due to the sudden outbreak of COVID-19 in the spring of 2020, we switched to online lectures via Zoom and were able to organize a total of 13 lectures at that time. Having 60 to 80 participants on average for each of these events, we received many positive comments about the excellent lectures along with requests from the audience to make a readable version of the content. Thus, we decided to publish the lecture booklets as a part of the social contribution activities of the NipCA project.

This booklet includes the English translation of the proceedings of the lecture held in Japanese entitled *Water and Environmental Issues: The Case of Pakistan*, which was the 18th event in the “Future of Central Eurasia and Japan” public lecture series. We would like to express our deep appreciation to our invited speaker, Dr. Takafumi KONDO, Professor of the Center for International Student Education at Tokyo University of Social Welfare. Dr. KONDO, an expert on Pakistan, spoke on the theme of water and environmental issues, one of the country's biggest social problems and one of the important targets for sustainable development. As can be seen from the fact that SDG-6 aims to “ensure availability and sustainable management of water and sanitation for all,” water is a critical global issue for many countries, not just Pakistan. There are many issues related to water problems. For example, most bed sheets used in Japan are manufactured from Pakistani cotton, and huge amounts of water are used in the process. Because the products made in Pakistan are exported to developed countries, the country is forced to suffer from severe water shortages. Listening to Dr. KONDO's lecture, I felt that it is important not to turn our eyes away from these social structural contradictions, but to continue to search for solutions and not to lose the will to improve, even if it takes time. I was also able to recognize once again that international cooperation projects have the potential to improve the social contradictions and discrimination found not only in developing countries but in many other countries and regions as well. We hope that this booklet will encourage readers to think more deeply about the complex problems of developing countries and possible solutions.

Finally, I would like to express my sincere gratitude to Mr. Yuji MORI, Executive Director of the Nippon Foundation, Mr. Takashi ARIKAWA, Manager of the International Operations Department, Ms. Masako NUMATA of the International Operations Department, and Ms. Kyoko VRBOSKI, Chairperson of the Japan Central Asia Friendship Association (JACAFA), for their continuous and warm support of the NipCA project at the University of Tsukuba behind the scenes.

Prof. Yamamoto: Now, it is time to start. Ladies and gentlemen, thank you for your patience. I am pleased to announce the start of the 18th Public Lecture Series on “The Future of Central Eurasia and Japan,” organized by the University of Tsukuba.

Thank you very much for taking time out of your busy schedules to join us today. My name is Yukiko Yamamoto, I am an Associate Professor at the School of Humanities and Social Sciences at the University of Tsukuba, and I will moderate this lecture today. Also, I am a faculty member in charge of the Nippon Foundation Central Asia-Japan Human Resource Development (NipCA) Project. I am looking forward to working with you.

We would like to ask all attendees to turn off their microphones and cameras during the lecture. After the lecture, there will be a question-and-answer session, so please wait until the end of the lecture to speak. Feel free to post your comments and questions in the chat box. Please note that this lecture will be recorded and distributed later on request.

Our first speaker, Professor Toshinobu Usuyama of the University of Tsukuba, who is in charge of the NipCA Project, would like to briefly introduce the purpose of this lecture. Professor Usuyama, please begin.

Prof. Usuyama: Good afternoon, everyone. Thank you very much for taking time out of your busy schedules to join us today. My name is Toshinobu Usuyama, and I am a Professor at the School of Humanities and Social Sciences and the Director of the Center for Education of Global Communication at the University of Tsukuba. I am also the Project Administration Director of the Nippon Foundation Central Asia-Japan Human Resource Development (NipCA) Project.

Today’s lecture is organized by the NipCA Project in cooperation with different structures at the University of Tsukuba, namely, the Global Commons, the Promotion Office of the Super Global University Project, Social Contribution Committee of the Center for Education of Global Communication, the Area Studies Innovation Program, the School of Humanities and Culture, and the School of Social and International Studies. Launched by the University of Tsukuba, the NipCA Project works to foster human resources that can serve as bridges between Central Asia and Japan and play an active role in developing societies in Central Eurasia. We are holding a series of lectures entitled “The Future of Central Eurasia and Japan” to provide Japanese students and

international students from Central Eurasia with an opportunity to gain a deeper understanding of Japan’s domestic situation, various issues that Central Eurasian societies face today, and efforts related to the achievement of SDGs in the region.

For this 18th lecture in our series of lectures, we have invited Dr. Takafumi Kondo, a prominent scholar in the field of international cooperation and South Asian Studies. Professor Kondo is an expert on Pakistan’s modern and contemporary history and a Professor at the Education Center for International Students, Tokyo University of Social Welfare. Professor Kondo stayed in Pakistan for four years from 2000 to 2004 and has visited the country periodically since then. He will deliver a lecture on the broad topic of water and environmental issues using Pakistan as a case study. It is my pleasure to listen to his talk to learn about global water and environmental issues from both global and local perspectives.

Dr. Takafumi Kondo received his master’s degree in education and culture from the Graduate School of International Cooperation Studies at Hiroshima University. In 2000, he received an offer from the Ministry of Foreign Affairs to work as a dispatched officer at the Consulate General of Japan in Karachi, Pakistan. Later, Dr. Kondo was appointed as an expert researcher in the consular officer’s economic unit. After becoming a researcher, he also analyzed the economy of Pakistan and supported local Japanese companies operating in the country. During that time, Dr. Kondo also worked as an interpreter and made his contribution to secure water resources in Pakistan where water is scarce.

After returning from Pakistan, he earned a doctorate degree at Hiroshima University. Later, Dr. Kondo taught at Kinki University and the Tokyo University of Social Welfare while continuing his research on the contemporary history of Pakistan. His research focuses mainly on the relationship between the military regime, democracy, and the water problem related to today’s lecture.

Recently, Dr. Kondo has participated in the Asian Environment Project launched by Shimane Prefectural University. The book “*Contemporary Asia and Environmental Issues*,” which will be discussed at this session, was published as a result of this project. Today, Dr. Kondo will talk about Pakistan’s environmental issues, which are introduced in detail in Chapter 10, “The Whole Picture of Pakistan’s Multilayered Environmental Issues.” Professor Kondo, we look forward to your lecture.

Prof. Kondo: Hello, I am Takafumi Kondo, and I have been introduced to you. I look forward to working with you today. As I have just been introduced to you, I am a researcher of the contemporary history of Pakistan. As for my experience in Pakistan, from 2000 to 2004, I worked for four years as a dispatched researcher and expert researcher for the Consulate General of Japan in Karachi, in the largest city of Pakistan. Karachi is called *Karāchi* in the local language. After that, I often visited Pakistan. As Professor Usuyama mentioned a little bit when he introduced me, I have been studying Pakistan, and I wanted to have a chance to go there and stay for a certain period to gain experience. I tried to get a chance to go there and work for an extended time to gain experience, but I could not find such an opportunity. So, I received a job offer from the Ministry of Foreign Affairs, and for the first two years, I worked as a dispatched worker for the Consulate General of Japan in Karachi. At that time, I did miscellaneous work for the Consulate General, from interpreting to general office work. At that time, one of the major tasks was the water shortage in Pakistan, and water cuts occurred almost every day. In particular, the city I was staying in, Karachi, globally is the seventh most populous city. Still, in Karachi, a city with a large population, water was frequently cut off, and water was essential for the Consulate General to carry out its duties. Water trucks are used to provide water. When the water supply is cut off in Japan due to an earthquake or other reasons, you may have seen the Self-Defense Forces’ water trucks come and distribute water. In parallel with my research on contemporary history, I became interested in water resources or water-related political issues. I was able to publish several papers on water and politics.

I am not a specialist in environmental issues. However, I have been researching South Asia, focusing on Pakistan, and I would like to share some of the ecological problems in this region that have not been given much attention. Thank you very much for your cooperation.

Please see the map of Pakistan, Figure 1. The area surrounded by the dotted line in the northern part of the country is an area of dispute with India. India and Pakistan are still engaged in a territorial dispute, and it has not yet been decided which side the territory will belong to. Still, Pakistan has been in effective control of this area for more than 70 years, and its ties with Pakistan have become very strong. In effect, it is regarded as Pakistan’s territory.



Figure 1: Map of Pakistan.

As shown in Figure 1, a large river called the Indus River runs through Pakistan from north to south for more than 1,000 kilometers. I have drawn only the main channel of the Indus River. Also, it has several tributaries, and it is the only water source for Pakistan, which is suffering from water shortages.

I stayed in this town called Karachi. About 12 million people live in Karachi, which is the largest city of Pakistan. However, the capital city is Islamabad. Islamabad is a city with the nominal status of the capital city, and it does not have a large population. The capital city is Islamabad, and the country’s second-largest city is Lahore, an ancient city like Kyoto in Japan. Today I would like to talk about my stay in Islamabad, Lahore, and Karachi.

Anyway, first of all, I would like to say that the Indus River runs through Pakistan from north to south. I would like to ask you all to keep that in mind. The country of Pakistan has severe environmental problems, and all the things called “environmental issues” are here. Soil pollution, water pollution, air pollution, deforestation, reduction of wild animals and plants, noise, and many other problems exist. Recently, however, water pollution has become a significant problem due to global warming and the spread of diseases, and air pollution has been recognized as the second most serious problem. In addition, air pollution has been recognized as an alarming problem.

According to the UNESCO World Water Development Report, the water quality rank of the country is 80th out of 122

countries, which is quite alarming. There is wastewater from factories (in the textile and leather industries, which are the key industries). It is estimated that about 5,000 factories in Pakistan do not have sewage treatment facilities and are discharging wastewater into rivers and lakes.

The discharge of domestic wastewater into rivers is also a severe problem, and only about 36% of the population has access to drinking water, which is considered safe. It is also said that about 40% of the hospital beds are occupied by actual patients with diseases caused by water pollution. Of course, 40% of hospital beds account only for 40% of the people who come to hospitals and are hospitalized. So, let's consider the fact that there are people who cannot even go to the hospital. There is a possibility that a more significant part of the population may actually have some kind of disease related to water pollution. It has been reported that 250,000 children die every year from diarrhea believed to be caused by water pollution.

It is also specified that the per-capita water availability has decreased by one-fifth between 1951, just after independence, and 2015. Also, there is an NGO called Water Aid, and according to this organization, Pakistan is one of the ten countries where urban residents do not have access to proper toilets. It is also frequently pointed out that illegal dumping of garbage into the riverbed and the impact on fisheries due to marine pollution are some problems.

I would like you to understand the current state of water in Pakistan, and I would like to look at the background from various angles.

I mentioned earlier that the Indus River runs through the country from north to south. Other than that, there is no other major source of water. Pakistan is a country that has no major water sources other than the Indus River and its tributaries. Most of the area belongs to the arid zone with very little precipitation. In August, which is the month with the highest level of precipitation during the year in Pakistan, there are only about 40 millimeters of rainfall per month. In Japan, September is the month with the highest level of precipitation during the year, reaching 210 millimeters. So, you can imagine how low the rainfall is in Pakistan. The source of water for the Indus River is the Himalayas. In fact, there are other large mountain ranges such as the Karakoram and the Hindu Kush, and water comes from these places as well. Glaciers and perennial snows are the source of water for the Indus River. The Indus River runs

through the arid zone of the country, so large water barrages have been set up in many places for agriculture. This is Sukkur, which is a large barrage located quite far downstream of the Indus River. In this way, water is taken from these weirs, and various fields are irrigated and watered.

As one of the world's leading irrigated agricultural countries, Pakistan's main export is cotton-related products. When you think of products made in Pakistan, what do you think of? Recently, rock salt has become quite famous, and when you go to various restaurants, for example, it is not uncommon to find Pakistani rock salt as a seasoning. Still, Pakistan's leading export item is also cotton-related products.

For example, most of the bedsheets in hospitals in Japan are made in Pakistan. In addition, there are many cotton products imported from China and other countries, but they are made into clothes in China and then imported to Japan. Still, the yarn and cloth used in cotton products are actually made in Pakistan. I'm sure that many of the clothes you are wearing are made initially from Pakistani cotton or yarn processed from it.

It is often said that cotton cultivation is waterintensive. In Pakistan, it is said that it takes about 13,000 liters of freshwater to grow one kilogram of cotton. In addition, other agricultural products such as sugarcane, wheat, and corn are also produced in Pakistan, and these are also waterintensive products. So, these are the main agricultural products. It is said that the rate of return of one cubic meter of water to GDP is 34 cents per cubic meter in Pakistan, compared to the world average of about 8.6 US dollars. It is difficult to substitute the cotton-centered structure, but please understand that the entire structure of Pakistan consumes a lot of water and the cost performance is quite poor.

Please see Figure 2, which is a very detailed diagram, I am sorry. This is a conceptual diagram of the Indus River system. The Indus River flows like this and finally empties into the Arabian Sea, but it has several tributaries, and, in particular, five tributaries, the Jhelum River, the Chenab River, the Ravi River, the Beas River, and the Sutlej River, are very large tributaries. In particular, the Jhelum River, the Chenab River, the Ravi River, the Beas River, and the Sutlej River are five very large tributaries that join together and eventually flow into the Arabian Sea as the Indus River.

When we refer to the Indus River in a broad sense, we often include these five tributaries, and we will use this term in a broad sense as well.

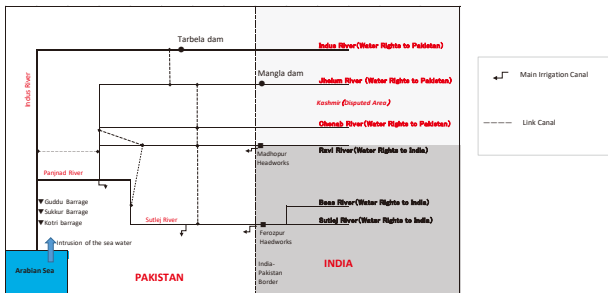


Figure 2: Indus River System and major water facilities

As I have said many times before, the Indus River is the basis of Pakistan’s economy, and it is really the only source of water for Pakistan. Before, Pakistan was part of a British colony in British India, along with India and Bangladesh. In 1947, this colony was divided into two countries, India and Pakistan, and became independent. Later again, in 1971, Pakistan was divided into the present-day countries of Pakistan and Bangladesh, and the current South Asian state system of Pakistan, India, and Bangladesh was formed from the western part of the map.

The independence movement in India by Gandhi is well known to people. Still, the British wanted to continue colonial rule and were reluctant to transfer power to the local people. After World War II, the British were suddenly forced to withdraw, and British India was divided into India and Pakistan. The British colonial bureaucrats finally drew the border. They withdrew, but because they did it in a hurry in a very short time, the border was drawn without considering the local people’s actual living conditions.

For example, there are some things, but I would like to tell you that in Figure 2, you can see a place called the Madhopur Water Transfer Outlet or the Ferozpur Pull Intake. This is where the irrigation canal comes out to take water and irrigate the nearby fields. However, the Madhopur and Ferozpur intakes are located further into India than the Indo-Pak border. The people who used water from these intakes were the people of Pakistan, but the places where the water was taken ended up in Indian territory because of the way the border was drawn. In particular, the Ferozpur intake is less than 500 meters from the Indo-Pak border. It is only 500 meters away from the Indian side.

The relationship between India and Pakistan has not improved for 70 years, and even now, tensions continue, with occasional military clashes occurring on the border. As a result of these tensions, when relations between India and Pakistan

deteriorated, the Indian side would shut off the water in front of the border to prevent water from flowing to the Pakistani side or prevent sufficient water from reaching the Pakistani side. The World Bank intervened, and in 1960, a treaty called the Indus River Water Agreement was signed.

The Indus River and its five tributaries are shown on the map. In Figure 2, the Indus River, the Jhelum River, and the Chenab River, shown in red letters, were granted water rights to Pakistan. The Ravi River, the Beas River, and the Sutlej River, shown in black letters, were given water rights to India. If you look at a world map, the three rivers on the west side are Pakistan’s water rights, and the three rivers on the east side are India’s water rights.

As compensation for this treaty, many connecting waterways were constructed from the three rivers written in red to prevent the rivers written in black from drying up.

The Indus River Water Agreement of 1960 brought about a settlement. However, this time, a water rights dispute arose between people living in the upper and lower reaches of the Indus River in Pakistan. This time, there was a water-rights dispute between the people living in Pakistan’s upstream and downstream areas. The decision was made on how to divide the water in the Indus River system between India and Pakistan, but this time, as shown in Figure 1, the mainstream of the Indus River flows from north to south. If the people in the upstream area use a lot of water, the water will not reach the downstream area, which is a simple problem.

The issue of salt damage is also an essential part of the water problem in Pakistan. When you think of salt damage, what do you think of? In Japan, the strongest image of salt damage is damage to the roofs of houses near the sea or to factory equipment in places where the sea breeze blows. As you may know, in fact, many irrigation canals for irrigation have been constructed in Pakistan like a network since the British era.

Figure 3 is a cross-sectional view of an irrigation channel, not a river. When water is flowing in an irrigation channel, of course, some of it will percolate underground. This in itself is a natural phenomenon, but when an irrigation channel is damaged due to inadequate maintenance, more water than usual seeps into the ground from the bottom of the channel, called leakage and water seeps into the around the canal. But Pakistan belongs to an arid zone, an area with extremely hot weather and intense sunlight. The intense sunlight causes the leaked water to be absorbed and evaporate. When the water

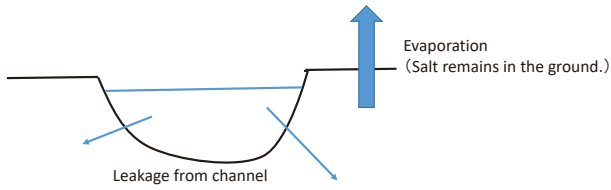


Figure 3: Water leakage from a channel

evaporates, of course, it is only the water that becomes vapor. Because the water is freshwater, it is not very salty, but when the water is sucked up and turned into steam, only the salt content remains on the ground's surface, and it crystallizes rapidly. As a result, the land around the irrigation canal becomes very salty and unsuitable for agriculture. So, we have a problem like that.

To prevent this problem, it is essential to take good care of irrigation canals, but in reality, what can be done with land where salt has been deposited is to pump up groundwater or draw water from rivers to wash away the salt on the surface. However, to do this, a large amount of water is needed. Also, if the water is not drained properly, the salt in the water used to wash away the salt will remain on the surface, interfering with agriculture. This is salt damage in Pakistan, and it is still a severe problem.

Then there is also a reverse intrusion of seawater from the mouth of the river. This is a problem because too much water is taken from the river. Thus, water from the Indus River does not flow sufficiently into the Arabian Sea. This causes the water from the sea to flow into the area where the river typically flows. This can lead to the destruction of ecosystems, of course, but it can also lead to salt damage in other ways, as seawater enters land that is initially low in salt.

In the case of Pakistan, the northern part of the country is very steep, but most of the terrain is very gentle. For example, in Pakistan, the elevation is about 200 meters, even at a distance of 1,000 kilometers from the sea. This means that if you go one kilometer, the elevation rises about 20 centimeters. It is a very gentle place. Because it is a very gentle place, there is a problem of seawater penetrating a very long distance back into the sea.

Recently, there has also been the issue of water rights with Afghanistan. Mr. Tetsu Nakamura, who established an NGO called the Peshawar Association and devoted himself to Afghanistan's medical care, and as well as regeneration of arid lands, drew an irrigation channel from the Kabul River, which is a tributary of the Indus River. In this way, dams and

reservoirs were built, and the water dispute with India was settled in 1960, but water problems still remain in many places.



Photo 1: A polluted river in Islamabad, the capital of Pakistan



Photo 2: Garbage dump in Abbottabad, Khyber Pakhtunkhwa Province



Photo 3: Overflowing sewage in the central area of Lahore, the second largest city in Pakistan

In addition to the water shortage, we cannot overlook the water shortage caused by the deterioration of water quality. Photo 1 shows a river in the capital. This is F-7 in Islamabad, where the presidential palace is located, and foreign dignitaries often visit. The government cannot cover up the water pollution. Photo 2 is a photograph of a garbage dump in the city of Abbottabad in the province of Khyber Pakhtunkhwa, often called KP Province, in northern Pakistan. So there is a public garbage dump here. However, a tremendous amount of garbage is dumped and the staff members put it on the collection

vehicles, but there is garbage left over that cannot be collected. If it rains, it clogs the gutters or it is washed away into the river. And it often happens that sewage is clogged by garbage.

Photo 3 shows a scene in the center of the second city, the ancient city of Lahore, when the sewage pipes burst and sewage overflowed into the streets. In this way, a lot of garbage flows into the river through the sewage. There is this kind of problem as a cause of water pollution. Of course, there is an inadequate treatment function of industrial wastewater. Then there is the lack of tax revenue. It is necessary to invest tax money to maintain sewage pipes and other facilities, but the funds cannot be spent because of the lack of tax revenue. This is partly because people are unable to pay taxes due to hardship in their lives and partly because of distrust in politics. In short, people share the view that they cannot pay taxes to politicians, so the treatment function for industrial wastewater remains inadequate.

In particular, there is the illegal dumping of waste in the riverbed area. Some people are called "pickers," and they collect glass, vinyl, and other recyclable materials from the piles of garbage thrown away and they take them to the recycling factories. They are in the informal sector of the economy.

For example, have you ever eaten Indian or Pakistani food? There are curry dishes such as mutton curry or chicken curry, and some of them contain meat with bones. So, these dustbins were set up by the city. Still, they cannot dispose of the waste, and there is a group of pickers organizing the waste, and they are trying to get the government not to remove the waste entirely because they will lose their jobs. And without these people, Pakistan can no longer handle all the garbage, especially in the urban areas. Even with these people, we are in a situation where we cannot dispose of all the garbage.

Water shortage due to water pollution has been progressing like this. Demand for mineral water is increasing due to the lack of trust in tap water. In Pakistan, you can't travel without mineral water. The mineral water industry is attracting attention as an accessible business, mainly because it is possible to open a small factory by purchasing a reverse osmosis water purifier for about 600,000 yen. Political parties are also recommending this kind of business. The number of mineral water brands has suddenly increased, of course the multinational companies such as Pepsi, Coca-Cola, and Nestle, which I'm sure you are all familiar with, have bases in Pakistan. There are now as

many as 130 trademarks in the country, including the major ones. Every year, about 100 of these trademarks are judged by the government to be ineligible for quality. However, the reality is that even if they are deemed ineligible for quality, they are still sold. Drinking water manufacturers actually give a lot of money to NGOs, and the WWF is one of them. These NGOs are actively involved in protecting domestic flora and fauna, such as sea turtle conservation and mangrove forest protection. In that sense, these drinking water manufacturers are giving back to society. Still, the rapid spread of mineral water has caused the government to neglect the maintenance of water supply and sewage systems.

The same thing has been pointed out before in the neighboring country of India. It may be said that this is just a result, but I would like everyone to understand the dilemma that the spread of mineral water is actually hindering the spread of clean water and sewage systems, which are indeed essential for people's lives. I would like to look at this water problem from a different angle and talk about ocean pollution.

About 50 kilometers from the largest city, Karachi, there is the Gadani Shipbreaking Yard. It is a factory that dismantles large ships and tankers that are no longer used around the world. It is said that there are about 6,000 workers in total, but most of them are unskilled workers engaged in dangerous work. The dismantling of ships generates iron scrap consumed domestically, but it is not just a scrap iron used to make iron scrap. When a large tanker, for instance, an oil tanker, is dismantled, there is a lot of leftover oil in the place where the oil is stored. So when they are dismantled, there is a lot of oil left in the tanker. This oil is then taken out and sold again. This residual oil is of poor quality, so, of course, it cannot be used as fuel for power. However, it is actually used in many brick manufacturing plants in Pakistan.

Especially in Punjab and the provinces, there are many brick manufacturing factories. Charcoal is used to burn the bricks, but the residual oil from the dismantling of ships is also used, as well as the waste tires from cars, which causes severe air pollution.

Gadani is a place without adequate facilities, so people are working in an area without a roof. All kinds of waste products are thrown out to sea. This causes ocean pollution, which naturally affects the fishing industry, but it is interesting to look at the people working in the brick manufacturing plant I mentioned earlier. In Pakistan, 97% of the population is

Muslim, but about 70% of the workers in the brick factories are Christians who converted from the so-called outcaste in India. These people are employed in the brick factories, but they are often unfairly given advance debts, called *pēshgī* in the local language. In other words, they are told to pay money to their employers or intermediaries because they are allowed to work. In this way, they take money from the workers in advance.

This is related to the problem of the protection of socially disadvantaged minorities and the absence of regulations concerning unfair labor, such as forcing people to work under prior obligation. The people who run these brick factories are Muslims by religion, but they are not part of the privileged classes.

In Pakistan, There are many people known as the lower middle class. NGOs have been providing various kinds of assistance to the poor, but if you look at this country, you can see a structure in which the so-called lower middle class exploits the poor who are further down in the social system. I don't think this is the case only in Pakistan, but I have felt that unless we improve the lives of the poor and the lower middle class, we will not realize the protection of minority groups.

From a global perspective, South Asia's share of the ship dismantling market is exceptionally high. The world's three largest scrap yards are Alang in India, Chittagong in Bangladesh, and Gadani in Pakistan. Gadani used to be the world's largest scrap yard, but its share has dropped to 22 vessels. Even so, unskilled laborers in these three South Asian countries dismantle about 75% of the world's large vessels. I cannot shake off the feeling that this kind of severe labor is being imposed on South Asia, a region with a rapidly growing population in this globalized world.

Pakistan has many ministries and agencies. Although there used to be the Ministry of Environment, it was replaced by the Ministry of Environmental Protection, a provincial organization rather than part of the central government. In other words, Pakistan no longer has a dedicated ministry to support environmental issues as a whole. There are many reasons for this, but this has given foreign countries, especially aid agencies, the impression that Pakistan is not ready to take environmental issues seriously.

In Pakistan, the reluctance of political parties to address environmental issues is also a problem. So international NGOs such as the IUCN (International Union for Conservation of Nature) have been calling for dialogue rather than political

deals. I should also mention that the Pakistani military is indirectly involved in environmental problems. It is called *Milbus*, which means economic activities under the influence of the armed forces, and, in this way, the military is using water unfairly. But I think we should not forget that Pakistan has a 30-year history of military rule as a background for the military to engage in such commercial activities. We are running low on time, so I will conclude with a summary. Here is a summary of what we have talked about so far. Please see Figure 4.

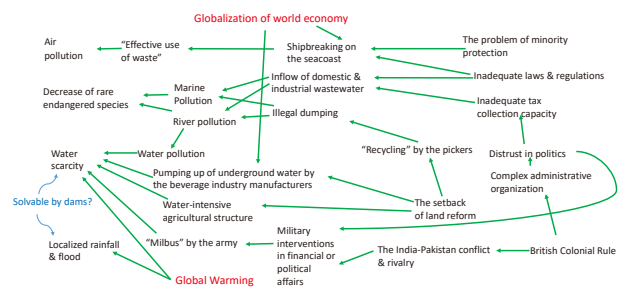


Figure 4: Summary flowchart

For example, water pollution, river pollution, the dumping of garbage, and the existence of pickers and recycling industries are all part of the environmental issues related to water. The recycling itself is good, but the pickers do the waste disposal, which leads to the residents dumping the waste everywhere, as I mentioned. The people called pickers come from rural areas where they cannot inherit the land, so they come to the cities. In the background, there are still large landowners of the same scale as in Central and South America, and these people monopolize the farmland, so I think there is a problem that the middle classes cannot grow.

Because of the system that allows the military to do business on its own, the military has become influential. This is because Pakistan has a lot of border problems and conflicts with India. We have to point to colonial rule as the cause of this. Also, the globalization of the world economy has led to the concentration of the ship dismantling industry in South Asia, as I mentioned earlier, and the pumping up of groundwater by the beverage industries, and so on. After all, environmental issues are often referred to as social issues. When environmental issues occur, it is common to see people trying to solve them with technology. This is important, of course, but when I look at Pakistan, I am reminded that it is necessary to understand environmental problems in relation to social issues as a whole.

Unfortunately, Pakistan has been using Islam only to enhance the sense of duty among its people and boost nationalism,

and has not been focusing on the values of Islam, such as the concept of social welfare and mutual assistance. They have not paid attention to such values. I think it is necessary to review the various aspects of the political use of religion in this way.

Recently, I have come to believe that it is necessary to deepen cooperation with other countries and societies, such as Indonesia and Nepal, which face the same problems as Pakistan, especially the issue of pickers.

Last but not least, a doctor named Masazumi Harada worked on the Minamata disease for many years. He said, "Pollution exists where there is discrimination." Rather than pollution giving rise to discrimination, he said that discrimination gives rise to pollution. When we think about pollution and environmental problems, we need to solve the various discrimination and social problems around us one by one. I have come to believe that the path to solving environmental issues can be opened from such a place.

I have talked a lot, and that is all for now. Thank you very much for your kind attention.

Prof. Yamamoto: Thank you very much, Dr. Kondo, for this valuable talk. Water issues are also included in Goal 6 of the Sustainable Development Goals (SDGs), which "ensure access to and sustainable managerial position of water and sanitation for all people." As for Pakistan, I could clearly see how they are facing the reality that they share the river's water resources with India, with whom they have a tense relationship, and that the river exists further downstream. I was reminded once again that there are a number of issues that lie behind water issues.

We have about 10 to 15 minutes left, so I would like to take questions and comments from the audience. If you have any questions about today's talk, please feel free to turn on your microphone and, if possible, your camera. You can also leave your questions in the chatbox. We'll read it for you. Do you have a question for us?

Prof. Usuyama: Excuse me, if I don't answer right away, may I ask a question?

Prof. Yamamoto: Yes, please, go ahead.

Prof. Usuyama: Professor Kondo, you really provided information on water and environmental issues from the perspective of the fundamental issues facing the country of Pakistan, based on actual research. I think you offered a variety of perspectives, and I listened to the lecture with great interest. Thank you very much.

Professor Kondo, I think you have been looking at

environmental issues in Pakistan for more than 20 years now, since about 2000. When I listened to your talk today, you said that Pakistan is a society filled with all kinds of problems and environmental issues. After 20 years of observation, do you see any improvement in Pakistan's water and environmental issues over 5, 10, or 20 years? Are there any signs of improvement, or are they worse than they were 20 years ago, or have they not improved at all? If there are signs of improvement, can you tell us what is affecting that improvement?

Prof. Kondo: Thank you very much. Some aspects are getting worse and, however, some aspects are improving, to answer your question. The aspect getting worse is that water is basically becoming scarce due to global warming, which is a global problem. In response to this, I don't think that the lifestyle of taking good care of water has yet taken root among people. I think that's one of the major problems.

However, on the other hand, I think that people's awareness and efforts to deal with water pollution are increasing. For example, the Pakistani society is about to ratify the Minamata Convention on Mercury. In Pakistan, the literacy rate has not yet reached 60%, and many people cannot read, so it is difficult for ordinary people to file environmental lawsuits. In anticipation of this, the courts have been trying to mobilize people in the legal profession in the form of public litigation to encourage the government to take environmental issues seriously. I think that this is having a very positive impact on the problem of water pollution.

Prof. Usuyama: Thank you very much.

Prof. Yamamoto: Do any of the other audience members have any questions or comments?

Graduate Student of Humanities and Social Sciences, University of Tsukuba: May I have your attention, please?

Prof. Yamamoto: Yes, go ahead, please.

Sun: Thank you very much for your presentation. My name is Sun Jing-Pu, a doctoral student in the Graduate Student of Humanities and Social Sciences. At the end of your presentation, you summarized various perspectives and proposals regarding Pakistan's water problems. Still, I think that in the end, it is up to the people of Pakistan to decide whether or not to take action. So, for those of us who are not Pakistani, we are interested in, for example, Japan's case. What are the problems that Japan faces because of the water problem in Pakistan? For example, of course, we are talking about agricultural products used to make clothes and bedsheets. But beyond that, do you have any

ideas about international relations with Japan, economic ties, or any other prospects or proposals from a foreigner's standpoint? If you have any thoughts on what you think we non-Pakistanis should or should not do, whether as individuals, organizations, or countries, I would like to hear from you. Thank you very much.

Prof. Kondo: Thank you very much. First of all, as a direct problem, as you just mentioned, many of the things we use in our daily lives, such as bedsheets, actually come from Pakistan. So, there is a danger that supplies of such items may be disrupted. As I mentioned at the end, Japan has been cooperating with Pakistan on various issues such as Minamata disease and the Minamata disease research center in Kumamoto prefecture. Japan has been cooperating with Pakistan in multiple ways.

In addition, as I mentioned earlier, some minor social contradictions can be resolved through international cooperation. For example, I have talked about the advanced debt called *pēshgī*. For instance, we talked about *pēshgī*, a kind of advanced debt where you have to pay money before you are allowed to work. This kind of advanced debt is also quite common in our society. Based on my experience to date, I have often heard that technical interns and other people who come to Japan are forced to pay what can be called advance debts. In Pakistan, this kind of thing is also linked to the preservation of environmental problems. So I think that working steadily through international cooperation and other means to address various contradictions and discrimination that may not seem to be environmental issues at first glance but are seen worldwide will also support the resolution of Pakistan's environmental problems. I believe that this will support the solution to Pakistan's environmental problems.

Prof. Yamamoto: Thank you very much. It seems that some questions have come to the chat room, so I will read them on your behalf. This is a question from Mr. Shimada. "Thank you very much for your valuable talk. I have heard that in Bangladesh, people throw garbage on the roadside or in rivers more casually than in Japan. I wonder if it is the same in Pakistan."

Prof. Kondo: Yes. That is really true, and I think that this is also true in India. Those people know that if they stop throwing away garbage, they will lose their workplaces, and such people are called pickers. The people organizing the pickers know that as well, and they are actually asking the government not to dispose of the garbage so thoroughly. However, even with their

help, we have not been able to dispose of all the waste, so we think it is essential to incorporate these people into the waste disposal process in a regular way.

Prof. Yamamoto: Thank you very much. Two more questions have been received. But so your time is running out mind. This is a question from Mr. Sasaki. "Thank you very much for your presentation. Sorry for sending this question to the chat box. It seems that Japan is also providing water-related assistance (related to Afghan refugees) through ODA and other programs. But I think it is localized and not sufficient for ordinary Pakistanis. For example, what kind of support do you think is needed now? I would like to know your opinion on this."

Prof. Kondo: You mentioned that this is a localized issue. In fact, Japan has provided water assistance through desalination projects such as projects to desalinate seawater. You also mentioned Afghanistan. However, as Tetsu Nakamura and others have said about Afghanistan, providing aid that is too advanced and cannot be maintained will not last.

It is not an immediate solution, but if we don't make a fundamental effort to solve the various problems that cause water pollution, we will end up with localized or ad hoc responses.

Prof. Yamamoto: Thank you very much. There is one more question, and I will read it now: "Thank you for your time. On slide 20, it says, 'Is a dam the solution for the problem?' I would be happy to hear your opinion on whether it is or not."

Prof. Kondo: Would you like me to share the slides?

Prof. Yamamoto: Yes, if you can get it out right away, please do.

Prof. Kondo: I see. Then, please wait a minute. This is the presentation. I think it's probably here.

Prof. Yamamoto: Is it the last slide?

Prof. Kondo: Please see Figure 4. It's on the lower left. "The solution is to build a dam?" The bottom line is that there is a shortage of water, but due to global warming, the water in the rivers temporarily rises due to the melting of snow in the Himalayas, and it cannot be fully processed. In the end, it becomes a flood. On the other hand, there is a shortage of water, as I have already told you.

The question is whether the construction of dams will solve the problem or not, but I personally think that dams will not solve the problem. The reason for this is that Pakistan has constructed dams in the past, and people have been relocated because of it. However, the places where the people were

relocated were very barren, and the transportation was inconvenient. Some people were treated like abandoned people because of the dam's construction, and there are several examples of such cases.

In addition, since there is basically a shortage of water, it is necessary to store water in rivers and reduce the amount of water wasted, to solve the problem of water pollution, and to reduce the amount of water that is wasted. In addition, there is distrust of the government's policy of promoting dams. Still, there is a lot of history behind this, so I am somewhat pessimistic in my view that unless these problems are removed, it will be challenging to solve this problem through dam construction.

Prof. Yamamoto: Thank you very much, I regret to say that we are running out of time, but I think it is time to wrap up the Q&A. Thank you very much, Dr. Kondo, for taking time out

of your busy schedule to speak to us today. On behalf of the audience, I would like to express our gratitude with a round of applause.

This lecture will be available for free video streaming on Manaba, but only within the university. If you would like to listen to this lecture again, or if you know someone who was not able to attend it, we hope you will use this opportunity. Details of the on-demand transmission will be announced on the Nippon Foundation Central Asia-Japan Human Resource Development website. We will also send an email to those who attended the lecture today, inviting them to participate in future lectures.

This concludes today's lecture by Dr. Takashi Kondo. We will be closing the meeting room shortly, so please leave the room. Thank you all very much for joining us today.

第18回「中央ユーラシアと日本の未来」公開講演会



水と環境問題

「パキスタンを例に」

2020年

12月18日(金)

16:00 ~ 17:15

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Dr. Takafumi Kondo, Ph.D., Professor, Tokyo University of Social Welfare, Japan**

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