

Re-Inventing Japan Project (Long Term)

Universidad Nacional Agraria La Molina. Department of Agronomy. 5th year.
Marjori Sofia Huaman Luque

Tokyo NODAI Department: International Agricultural Development

1. Reason for participating in the study program

The most gratifying and wonderful experience in my life so far, has been living and studying in Japan. Knowing about the incredible experience of the previous students that joined the internship and the university profile, it didn't take me time to take encourage and apply for the Re- Inventing Project in Tokyo NODAI.

I was aware that Tokyo NODAI is a prestigious university, committed to the development of the agriculture worldwide, contributing to the international and local communities through their broad knowledge and global perspective. Research is one of the mainly targets that characteristic the university, because to achieve this, it has a very well equipped laboratories and facilities, and a good quality researchers as your professors. Besides, the courses offered by the international program, are aimed to agriculture and environment in a current and worldwide aspect. Since, my courses in my home university (Agrarian National University La Molina) were related to sustainable agriculture, I was convinced that it would be a big opportunity to learn and expand my knowledge and form me a better professional to face challenges in the peruvian agriculture and enhance it.

On the other hand, I considered Japan as an incredible country: culturally rich and high potential in technology and economics; with the most important cities in the world and beautiful landscapes. For that reason, with the mentioned above, I decided to apply to study a semester in Tokyo NODAI.

2. Activities I did during the program

a. Courses offered at Tokyo NODAI

The spring semester started at the beginning days of April in Tokyo NODAI, and I was able to choose the courses that I wanted to enroll. For exchange students, the courses offered were conducted in english. The classes that I enrolled were: Vegetable Production Technologies for International Cooperation, Environment and Agriculture, Global Food Systems, Planning and Design of Landscape Architecture, Food and Environment in Economic Development, and Life history and Applications of Landscape Plants. These courses have helped me to learn not only the japanese agriculture, but also a

worldwide view of agriculture, the agricultural practices or management, and the role of the society's diet, and food safety.

Vegetable Production Technologies for International Cooperation is aimed about the management and technologies applied of the main crops in Japanese agriculture, learning about the crop's activities from the seed to the consumed product.

The subject of Environment and Agriculture gives a perspective about the relationship between the previous concepts mentioned, applying their values to process information for contribute precision agriculture. Hence, the management and use of the natural resources is sustainable, challenging the actual climate change; and the yield in the fields improves. Water resource management, environmental monitoring using spatio-temporal data (GIS and remote sensing), soil physics and desert greening are some topics regarded of the subject.

Global Food systems shows the worldwide food habit, therefore the international students could share information about the daily consumed food in their own country, concerning about percentage and frequency of consumption, as well as a critical and analytical approach about current agriculture issues in a political, social and economical aspects.

Planning and Design of Landscape Architecture is about the study and observation of several landscapes around Tokyo through four field excursions, that allow me to learn about the culture and social aspects of Japanese society.

- Hama-rikyu garden 浜離宮恩賜庭園, a special place that mix beauty and historic architecture of an outer fort in Edo era, belonged to shogun's family. Different structures in the place show the several activities developed at that time, like economical and social.
"Tsukiji" Fish market (築地市場) shows a wide variety of fish on sale. Many Japanese people are looking for fresh and processing marine food, considering an important cultural and social way of consumption in their daily life.
- The Science Museum of Map and Survey (Geospatial Information authority of Japan -GSI) is an educational organization about the Japanese development and structure of mapping and surveying information, that are useful in the daily engineering and meteorological activities, specially for prevention of natural disasters.

Tsukuba Space Center (Japan Aerospace Exploration Agency- JAXA) is an organization for Japan's space development. Its target is to contribute in national security, disaster prevention, industrial development and

communications; an important currently issue because of climatic changes and modernization.

- Mount Takao (高尾山, Takaosan) is a national park in Tokyo, that shows a beautiful vegetative landscape, biodiversity of plants (characteristic in seasonal blooming of different species) and trees, and ancient temples.
- Kamakura is an important touristic city where are many buddhist temples and shinto shrines. However, the main attraction is the Great Buddha “Kotoku-in”, with 13 meters of height, that has been setted despite of the seaquake in XV century.



From left to right: Hama-rikyu garden, Tsukiji market and Tsukuba GSI



From left to right: Mount Takao and Kamakura

Food and Environment in Economic Development is a subject focus on the current economic activity related to agricultural sector of different countries, depending of the nationality of students that enrolled the class. Hence students from Brazil, France, Japan and Peru shared about the importance of agriculture in their countries in a economical view, export and import trades, and how their agricultural sector develops in an active and changing economy, including social aspects.

Life history and Applications of Landscape Plants is a course focus on learning about vegetation and this one in the landscape architecture field in the urban or the natural area near Tokyo metropolitan. I learned about flowers that are important in urban parks or areas and also in a social aspect, depending of season or festival; for example in the field trip going to the Iriya morning glory Festival, I could knew about the asagao flower (use as ornamental because their vivid colors, but also is important as religious aspect). Besides, this course explained about the ground cover plant in urban space during the field trip in Tama-gawa river bank, the invasive weed around this area is appropriate to avoid flood that can broke the embankment. Finally, I could learn about ecology of plant which carries out vegetation mainly to a natural area and importance of conservation in Satoyama- Hayano area, where it is important the bamboo. Important past and current issues in both social and economical aspect have affected the bamboo's production.

From these course, I was able to join a lecture directed by Mrs. Welch, teacher from Hofstra University- New York. It was about Edo into Tokyo and elements, that explained about a dominant, emergent and residual (stay over time- like religion or old practices) culture in that city. Further, I could learn about samurai and their social characteristic in Edo Era, and Kyogen, which is an art from martial. Being part of this lectures was an interesting and great moment, because I could learn more about japanese history and culture. It allows me to realize the richness of the japanese culture, and how they developed over time.



From left to right: Iriya morning glory Festival and Satoyama mountain

All these lectures and classes were shared with NODAI students and other international students, who provided different opinions and insights from each country's cases, becoming the classes enriched. I was happy to share all my classes with people from France, Nepal, Japan, Brazil, Mexico, Taiwan and Cuba.

Apart from the agriculture classes and lectures, I was committed to learn Japanese language. For that reason, I enrolled the brush-up course for beginners. The course was not rushed and difficult. It helped me in useful Japanese daily life expressions. Besides, joining the Latin America Coffee, organized by CIP, supported me to practice the language. In that meeting, Latin America and Japanese students joined with the purpose to learn basic expressions of the languages of the participants (in this case: Brazil (Portuguese), Mexico and Peru (Spanish) and Japan (Japanese)); and make friends on the way.

b. Laboratory

I belonged to the Laboratory of Tropical Crops Science, which is focused on agronomy aspects, physiology and breeding in tropical crops, like yam, rice and peanut. I had experimental classes about DNA sequence and spectrophotometric determination of nucleic acids. I was glad with the practices because I could learn about the methodology, using high-quality machines that were new for me. Besides, once every two weeks, I had field trips in Kanagawa Prefecture. There were fields of rice, potato, sesame, corn, wheat, barley, tea, onion and a small biogarden of vegetables. The activities carried out were: transplanting by hand and machine, weeding and measuring growth of rice; pounding and harvesting potato; harvesting wheat by machine

and using the thresher to have only seeds; weeding and fertilization of sesame; and others activities in the biogarden. I was happy joining this trips because I could learn about the management of the crops, use of the different machines for specific activity and also have a great time with friends.

During the hours that I didn't have teoric classes, all along I was in the laboratory helping to a master student Kanako-san in her project about the symbiosis between yam and nitrogen fixation bacteria. From her, I could learn more about the crop, which was very new for me because in Peru it is not use to eat yam, also learn experimental process and laboratory practices, using the different equipments.

A part of the academic aspect that I could get from the laboratory, I had great moments shared with the undergraduate and master students. At the beginning of the semester, the laboratory had the welcome party, that were very special for me because I had to introduce myself with all the members of the laboratory and shared a peruvian food made it from me and laboratory friends that help me. Also, I could enjoy other different food from Thailand, Nigeria, Afghanistan, Taiwan, Côte d'Ivoire, Myanmar, India and of course Japan. I was very happy trying delicious food from different countries, and also because the students liked what I cook.

In the middle of the semester, I had the 2 days-laboratory trip to different institutes related to agriculture and technology in Tsukuba-Ibaraki Prefecture. I went to Tsukuba Science square, where I could see innovative japanese technologies applied in medicine, agriculture and science; the Institute for Agro-Environmental Sciences NARO, where I could attend to presentations about rice breeding and sweet potato diversity; Tsukuba Agriculture Research Hall, that I could learn how Japanese agriculture developed and to explore the latest agricultural research in Japan; and Tsukuba Expo Center National, a science museum and planetarium. After to attend all the institutes, the laboratory had a confraternity time. We went to a onsen, which is a traditional public bath; and then enjoyed japanese food and some presentations from first year students like acting or dancing.

Sharing these great moments with the students from my laboratory, allowed me to know them and became friends. As well as, my senseis, Mr. Shiwachi, Mr. Pachakkil and Mr. Irie, who I am very grateful with them, because of the knowledge acquired that they shared with me, and also for making me feel me like home during my stay in the laboratory.



From left to right: Field trips in Kanagawa Prefecture, and laboratory experiments



From left to right: PCR method and visit to NARO



From left to right: Laboratory friends and senseis

c. Places visited in Japan

Even though my principal target was my professional development; going out around Tokyo and others cities, knowing about japanese culture and history, and interacting with japanese people and their daily life, contributed in my personal growth and knowledge.

Tokyo, one of the biggest cities of the world, not only has modern and busy districts, but also preserves traditional shrines and neighborhoods. I had the opportunity to visit many places there, which each one has a particularity aspects. The places that I visited were: Shibuya- with the crowded crossing avenue and famous Hachiko statue; Shinjuku-the district of lights; Roppongi-young and art district; Odaiba-with the amazing rainbow bridge; Ginza - luxury district; Yokohama- where is the big red building and incredible marine port ; Saitama- with the shibazakura festival; Yokosura- with the sunflower festival; Akihabara-anime district; Ueno park- with the beautiful sakura trees and big zoo; Asakusa- where is Senseji temple; Harajuku- pop culture district; Ome- where is Shiofune Heiwa Kannon; Enoshima island ; Kamakura- with the Great Buddha statue.



From left to right: Shinjuku and Yokosura “sunflower festival”



From left to right: Shiofune Heiwa Kannon and Saitama “shibazakura festival”



From left to right: Asakusa and Akihabara

Besides, I could plan a trip with friends to Kansai and Hiroshima at the end of July.

In Hiroshima, I visited the Peace Memorial Park which is dedicated to the legacy of Hiroshima as the first city in the world to suffer a nuclear attack and to the memories of the victims. Also, I went to Miyajima island by ferry, my favourite place in Japan, where is a big shrine in the sea and beautiful landscapes around there. Then, I could enjoy eating the traditional okonomiyaki in Hiroshima.

In Osaka, I went to Dotonbori, Osaka castle and Shinsekai. I saw the incredible and emblematic tower, Tsutenkaku. Also, I was very happy because I went to Osaka Universal Studios, where I had amazing time playing in the extreme games.

In Nara, I went to Nara Park, which is very big. The main attraction is the lovely deers around the place.

And finally I went to Kyoto, historic and traditional city, where I visited Fushimi - Inari, a mountain full of torii; Kinkaku-ji, the golden castle; and Arashiyama, where are many naughty monkeys.



From left to right: Peace Memorial Park, Miyajima island and Fushimi-Inari



From left to right: Tsutenkaku-Osaka, Universal Studios, and Nara Park

I was interested on museums and theatre like The National Art Center in Roppongi, Ueno – Tokyo National Museum, Hiroshima Peace Memorial Museum, Kabuki-za theatre ; where I learn about japanese history, traditions and perspectives.



Kabuki-za theatre

I went to Toyosu market, which is very new because it opened in October 2018. It took over the wholesale business from the aging Tsukiji Market and provides tourists with an opportunity to observe the market action. The huge wholesale market consists of three main buildings: two buildings for seafood and one for fruits and vegetables. In the case of fruits and vegetables, I could see the postharvest (packing) of the final products, and the value in the market.



From left to right: Toyosu market packing, process products and natural products.

Besides, I enjoyed doing trekking in natural landscapes out of Tokyo. I went to Oyama mountain, Mount Takao and the Mount Fuji. Going to Mount Fuji was a challenge for me, because of the cold weather and difficult walk, but I enjoyed climbing to the near top of the mountain.



From left to right: Oyama Mountain and Mount Fuji

I was able to visit the places mentioned before through a good time and money organization by myself.



From left to right: Ramen, Japanese Curry and Sushi



d. ERECON Internship

At the beginning days of August, NODAI organized an internship to the members of the Re-inventing Japan Program to the Institute of Environmental Rehabilitation and Conservation (ERECON), with a target to get closer to entities focus on agriculture and have a practical learning.

ERECON is considered a NGO, a private organization whose main purpose is not to seek profit but to contribute to international cooperation. They taught us to know what happen with development countries and how can impact in our lives.

The activities during the internship were:

- Visiting to Onoji- Satoyama Community Center and knowing the agriculture in Onaji-satoyama.
- Making organic pellets and liquid fertilizer

During this internship, I learned how to many countries need the support of education to get a better lifestyle and productive work. I was able to learn how to focus in an problem and make a solution, regarding the sustainable development goals. Peru, the country where I come from, as a developing country, needs support in the highlands (rural areas), specially in the rural women.



From left to right: ERECON presentations and, pellets and biol.

3. What I accomplished and learned through this program

The program exceeded my perspectives. I learn a lot from this. The most important aspect that I could learn from this program during this five months, is growing positively in my personal life. Living by myself far from home and sharing room with others girls, made me a stronger and more tolerant person. It made me be more independent because I had to manage well my money and organized my time between academic and extracurricular activities.

In the academic aspect, the classes and laboratory activities allowed me to extend my knowledge. I was pleased to learn about worldwide agriculture in different views: science, economical and social; to have access to modern equipments in laboratory; and of course, to get support from my professors, master students and undergraduate students. The professors and master students allowed me to be part on their experiments, helping in some activities, and shared their knowledge with me. The undergraduate students were very kind at any time, during the experimental classes, helping me with the language struggle and with the laboratory facilities. People around me were very kind and hospitality, caring about my safety.

Finally, I accomplished to meet many people from all over the world. I loved to know and learn about different culture, historic aspects and main attractions of different countries, that encourage to search more about it and travel. It was very interesting and amazing to share between foreign people about our countries, for example: learn some of their language, traditions, food, music or dancing.

4. How did this program shape my career and how will I apply what you learned in the future

Re-inventing Japan Program help me in my personal and professional development, as well as, it nourished me with full of culture.

The wide scientific research that has been done in Japan regarding agriculture, shows me that in my country Peru needs more investigation in conservation of their natives plants, which has a huge potential in different aspects like nutritional or biological, that can work for breeding studies.

From the classes, I learned the different technologies apply in the management of Japanese agriculture. Some of these technologies can be new for many Peruvian farmers, specially the ones that work in rural areas, who do not have any support in agriculture practices, for that reason their fields do not reach good yields.

Besides, I could learn about the eating habits and the safety of products from different countries; so in this case, Peru needs an important warning. Peruvian people need a change of eating habits, also need to know what they are eating.

I will try to share these aspects in consideration to my colleagues in Peru in the near future, to aware them the possible main problems of Peruvian agriculture in comparison with foreign countries.

5. Suggestions to improve NODAI exchange program

For future international students in Tokyo NODAI

- English is very important for daily life, because it is the main and shared language that you are going to communicate with the other students from different countries. Besides, the classes are in English, where it requires to make presentations and an active participation.
- Japanese language is not required, but it would be useful to learn grammar (hiragana and katakana) and some daily expressions.
- Manage well your money. If you have a scholarship, you will get your money monthly and you have to learn how to spend it wisely. Saving money can give you the opportunity to travel and know more places around Japan.
- Manage well your time between the classes or laboratory meetings, and tourism. The main target of this internship is academic, but you can not miss visiting the incredible places around Japan.
- Get involved with students activities, such as International Party, laboratory meetings or different events organized by CIP, it is a good way to make new relationships and learn the language.



International Party

To improve the program

- The classes for the international students were good, however the level of english of some professors are quite poorly, therefore the classes can not be dynamic between student and professor. For that reason, it is important the well knowledge of english.
- The internship with ERECON was good because I could learn more about agriculture, the needs of development countries and how to manage the weaknesses. My suggestion is to improve the agriculture practice, making in a bigger scale and learning or making all the steps to make the product, and apply it in the field.

To conclude, I would like to thank from the bottom of my heart to the Re-Inventing Japan Project - NODAI for the unique opportunity to study in Japan for five months, that helped to develop as a human being and shape my career as a future agronomy engineer, with the target to make a sustainable agriculture in the world.



International Students