

## Experiences as a PhD student in Japan

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Studying in Japan was my dream when I was young. In order to make my dream come true, I decided that I had to try to study well. Fortunately, I received MEXT scholarship that was supported by Japanese Government. This brought me a good opportunity to pursue Doctoral course at Graduate School of Agricultural and Life Sciences, The University of Tokyo. After three-year research, I got PhD degree on 18 December 2018 (Fig. 1). It was the first time in my life that I had been to Japan. I was overwhelmed with many beautiful landscapes. I had chances to see Sakura blossom and Fuji mountain that I had never seen before. The beauty was not only from the nature but also from the Japanese culture and people. It would be hard to feel if I had never been there.

Three years brought me unforgettable memories with wonderful experiences. Many activities such as Japanese Society of Soil Physics (JSSP) conference at Kyoto University, Japan Geoscience Union Meeting (JpGU) in Makuhari Messe of Chiba, and Study Trip were impressed. Thanks to this, I had good chances to communicate with



**Fig. 1** Doctoral Graduation Ceremony at the University of Tokyo.



**Fig. 2** Outdoor activities with my laboratory friends.

international students who could help me widen my knowledge. Furthermore, I had spent precious time for outdoor activities with my laboratory friends (Fig. 2). This could help us understand each other and save unforgettable memories.

Agricultural soils are gradually degraded in Viet Nam because of overdose of chemical fertilizers onto the soils. This leads soils to be low pH and soil aggregate degradation. Therefore, I desired to find the better way to ameliorate quality of Vietnamese agricultural soils. This could help enhance the quality and quantity of agricultural products, bringing good health to customers as well as good income to farmers. In addition, reuse of agricultural by-products helps to reduce environmental pollution. These issues motivated me to pursue the research on soil improvement using agricultural by-products such as chicken manure and chicken eggshell. In Mekong region, combination of gardening, fish-raising, and poultry-raising called VAC integrated system is a popular farm management. Therefore, chicken manure and eggshell produced as wastes are essential to be recycled.

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Laboratory incubation was conducted to measure CO<sub>2</sub> emission, soil pH, and aggregate stability upon application of amendments. In this method, soils and either or both eggshell and chicken manure were mixed and put into a glass bottle. Interestingly, I got good results that were useful for farmers who would like to improve their soils. As the result, using both chicken manure and eggshell could bring positive effects not only on soil pH but also on aggregate stability. In addition, a combination of chicken manure and eggshell could enhance microbial activity contributing to decomposition of organic matter. This involved aggregate stability, where organic compounds produced from decomposition of chicken manure by microorganisms could enhance soil particle cohesion and thus stabilized soil aggregates.

Three years were a difficult time for me to adapt new environment and to do research. My biggest obstacle was Japanese language that I did not know much. During research process, I had to work hard, almost whole day for doing experiment. It would not be overcome easily without efforts and willpower. Finally, I had fulfilled my research. More importantly, I am honored to gain “Paper Award of 2019” from Japanese Society of Soil Physics (JSSP) for the paper of “Effects of soil amendments on pH and aggregate stability of saline sodic soil and acid sulfate soil in Mekong Delta Viet Nam” which was studied by corresponding authors: Ca Thi NGUYEN, Shoichiro HAMAMOTO and Taku NISHIMURA and published on 30 November 2018. To gain this achievement, my deepest gratitude would like to be sent to my supervisor, Professor Taku Nishimura, who gave me a hand enthusiastically during three-year research. I want to send international students a message that the efforts and willpower are the keys to succeed. I believe that all of us can pass difficulties and

get success under our efforts in the future.

Now, I am working as an official and a teacher at Ca Mau Community College, Ca Mau City, southernmost part of Viet Nam. In the college, I have some classes for training farmers who want to grow Reishi (靈芝), a kind of mushroom (Fig. 3). Although, my job is different with what I have learned at The University of Tokyo and Can Tho University, I feel happy to help farmers to earn their income and to improve their lives. However, I hope I have a chance to do more researches on soil physics in Viet Nam. Kitchen wastes are discharged and thrown away. They are less recycled in Mekong region. I hope I will have a good project to make them as a compost that can be applied to soils, and to assess their effects on soil physical properties.



Fig. 3 Reishi (靈芝).