

Overseas Practice on (Field Epidemiology • Collaborative Research)

report form (For Student)

(2016/06/07)

Name	Delgermurun Dugar
Laboratory	Pharmacology
Year (Grade)	4 <sup>th</sup> year
Place of practice	Mongolia
Period of practice	2016/05/11-05/26 /two weeks/
Purpose	To collect the samples from domestic animals, soil and water in some area of Mongolia for study of heavy metal pollution.

Summary of activities (about 800 words, provide photos, tables and figures that clearly show the activities during the period)

### Goal of the activity

In recent years, heavy metal and metalloid pollution in the environment has become an important issue in Mongolia. Although a number of Mongolian researchers are studying the heavy metal contamination in various regions in Mongolia, it is still obscure.

Goal of my overseas practice on collaborative research was to examine the level of heavy metals specially uranium (U) in the domestic animals, soil and water in Mongolia. For this purpose, I collaborated with researchers of Mongolian University of Life Sciences (MULS) and Japan International Cooperation Agency (JICA), and collected the samples from domestic animals, soil and water in some area of Mongolia.

During this overseas practice, I did following works according to the program.

#### 1. Sample collection

We collected most of the samples from the Dornogovi in Mongolia. Dornogovi is one of the 21 provinces of Mongolia, located about 460 kilometers from the capital city, Ulaanbaatar. It has been noted that Uranium (U) mine is situated in this city. A total of 270 tissue and blood samples of cattle, sheep, goats, horses and camels, and about 70 soil and water samples were collected from the U mining area in Dornogovi (Fig. 1B).

We also collected the samples from Tuv-Aimag because this area has a long history as gold mining. Tuv-Aimag is also one of the provinces of Mongolia, and the national capital Ulaanbaatar is located roughly at its center. About 60 samples including blood, soil and water samples were collected from the gold mining area in Tuv-aimag (Fig. 1A). We have transferred all samples from Mongolia to Hokkaido University for study.

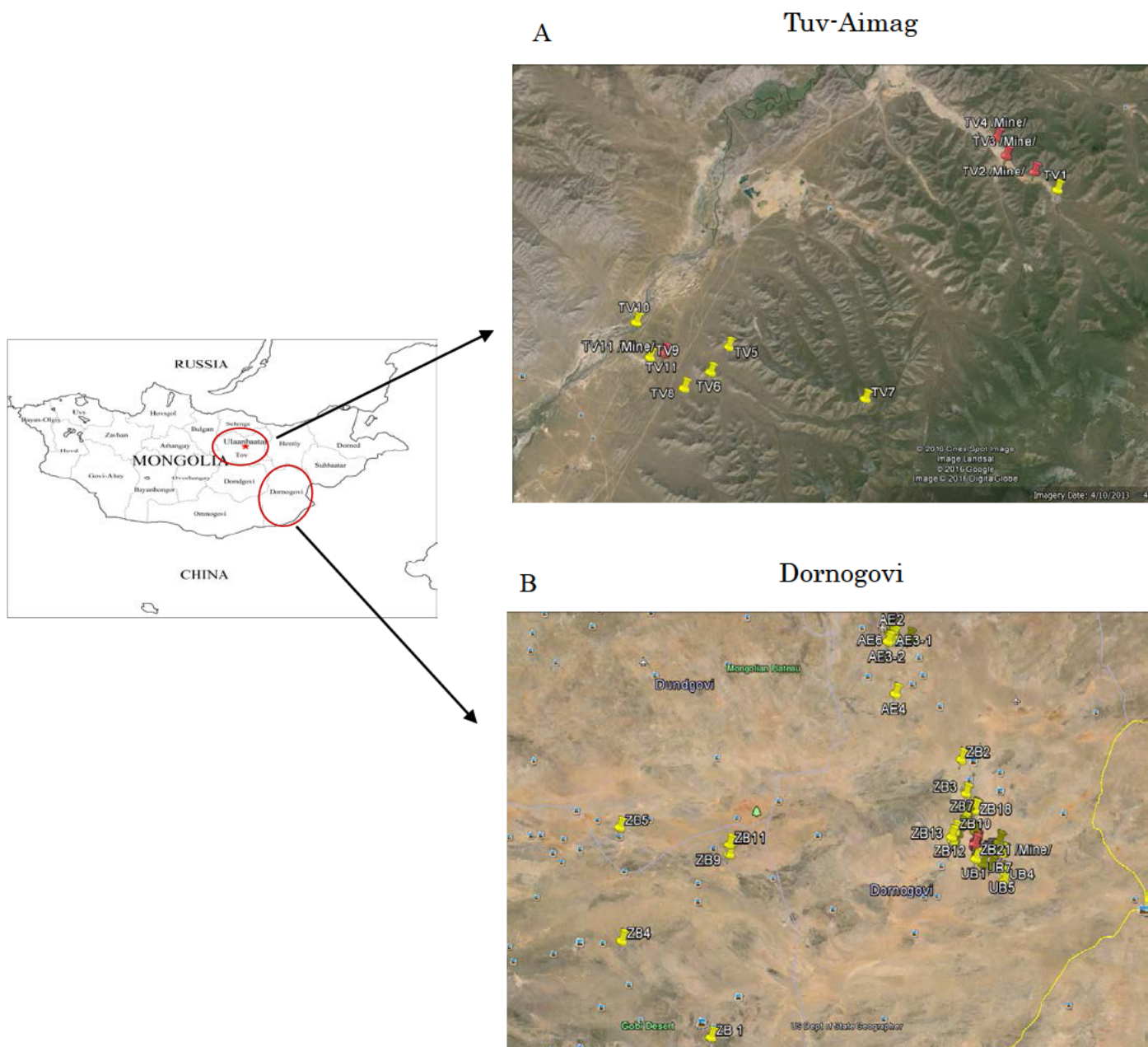


Fig1. Map showing sampling locations of Tuv-aimag (A) and Dornogovi (B) in Mongolia. Yellow and red pens indicate sampling places, and uranium and gold mines.



## **2. Training in Dornogovi province**

Lectures of Graduate School of Veterinary Medicine, Hokkaido University of Japan and School of Veterinary Medicine, Mongolian University of Life Sciences (MULS) were organized for the training named as “Environmental Heavy Metal Pollution” for veterinarians at veterinary laboratory in Dornogovi province in 18<sup>th</sup> of May, which was supported by JICA. I attended this training and also presented the basic knowledge about radioactive substances including the uranium.

## **3. Lectures for students at MULS**

Dr Ikenaka (Hokkaido University) gave lectures to students of School of Veterinary Medicine, MULS. I spend with him and translated the lectures from Japanese to Mongolia. I also gave a lecture about basic knowledge of radioactive substances to the students.



## **Next step**

I will investigate the level of heavy metals in the all transferred samples at laboratory of toxicology under this program. For this study, I have following schedule

- To improve my knowledge about heavy metal pollution
- To learn the methods of investigation for heavy metal concentration /how to use the instruments /
- To examine the heavy metal concentrations in the transferred samples

(Field Epidemiology ・ Collaborative Research) Evaluation by supervisor

Institution ・ Official title ・ Name	Hokkaido University, Associate Professor, Ken-ichi Otsuguro 印
<p><b>Describe overall evaluation on the applicant's activity in overseas practice.</b></p> <p>The applicant has achieved all the objectives in cooperation with MULS and JICA. In addition, she cooperated with JICA to train the veterinarians and students in Mongolia. I evaluate that her activity of this practice is excellent.</p>	

- ※1 Send the electronic file to the Leading School section, International Affairs Office, also submit the original print out with seal of supervisor to the Leading School section, International Affairs Office.
- ※2 The Steering Committee of the Leading Program will first confirm the content of this report and the report will be forwarded to the Educational Affairs Committee for credits evaluation.

Submit to : Leading School section, International Affairs Office

Ext: 9545 e-mail: leading@vetmed.hokudai.ac.jp