Overseas Practice on（Field Epidemiology・Collaborative Research）report form（For Student）

2019.03.16
(Year/Month/Day)

Name	Megasari Marsela
Laboratory	Division of Collaboration and Education
Year (Grade)	D3
Place of practice	One Health Collaborating Center, Universitas Gadjah Mada (OHCC-UGM), Yogyakarta, Indonesia
Period of practice	01/07/2019 - 01/27/2019
Purpose	collecting blood samples from cattle and buffalo in Indonesia to provide materials for molecular identification of *Trypanosoma evansi* by using MinION nanopore sequencing.

Report of overseas practice on field epidemiology in Indonesia

1. Introduction

Trypanosoma evansi is a blood protozoan parasite which causes surra disease in livestock. Surra has brought great losses to many countries especially in agriculture sector. However, in Indonesia, surra is still considered as neglected disease and there is still lack information about it. Hence, we aimed to do field surveillance for the epidemiology study of *T. evansi* in Indonesia.

2. Purpose

There were basically three points of purpose I wanted to achive through this program:

a. collecting blood samples from cattle and buffalo.
b. obtaining the knowledge on data and sample collection methods.
c. training myself to work with local vet, community, and all stakeholders involved in field activity.

3. Activities

a) collecting blood samples from cattle and buffalo.

We collected blood samples from both buffalo and cattle in total number of 446. We collected cattle blood samples in Kulonprogo residence, Yogyakarta with total number of 202. The field sampling took place in three districts: Lendah, Panjatan, and Galur. Yogyakarta is one of endemic areas of surra disease in Indonesia, particularly Kulonprogo residence, the highest prevalence region in the province. During surveillance in Kulonprogo, I also conducted blood smear test and haematocrite test for surra diagnosis. From Haematocrite test, we found the *T. evansi* parasite in the samples.

For buffalo blood samples, we shared total number of 244 with Disease Investigation Center in Wates, Yogyakarta. The buffalo blood samples have been collected in 2017 from eight residences in Central Java and East Java: Pemalang, Brebes, Ngawi, Pekalongan, Demak, Banjarnegara, Semarang city, Semarang residence. Water buffalo is an important livestock for agriculture and meat production in Indonesia. Water buffalo is susceptible for *T. evansi* infection but asymptomatic therefore buffalo became reservoir of the disease.

Fig1. Surveillance Location in Kulonprogo for cattle blood sampling

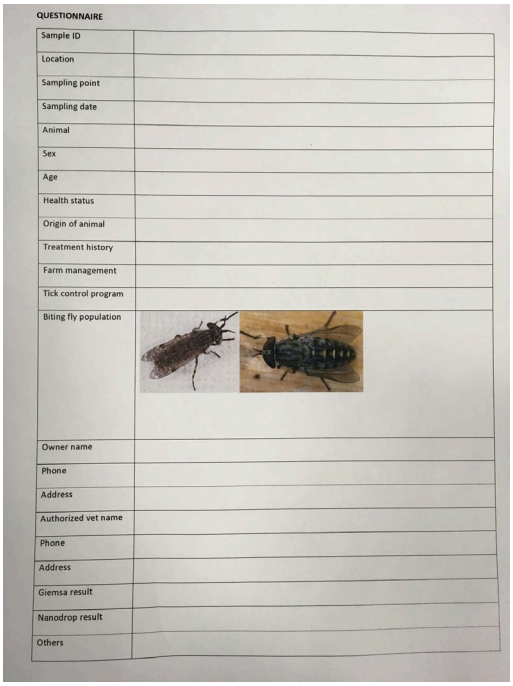
Fig2. Surveillance to get field sample from cattle blood in Kulonprogo residence

Fig3. Transfering buffalo blood samples in Balai Besar Veteriner/ disease investigation center

b) obtaining the knowledge on data and sample collection methods.
I have met a lot of people to get surveillance data including local vet, local researcher, farmer, and government staff. I interviewed and discussed with them all to collect the information related to the disease. I used questionnaire to help me during sampling interview.

Fig4. Interviewing the farmers to obtain the epidemiological data

Fig5. Questionare used for interview during surveillance



QUESTIONNAIRE

Sample ID	
Location	
Sampling point	
Sampling date	
Animal	
Sex	
Age	
Health status	
Origin of animal	
Treatment history	
Farm management	
Tick control program	
Biting fly population	
Owner name	
Phone	
Address	
Authorized vet name	
Phone	
Address	
Giemsa result	
Nanodrop result	
Others	

c) training myself to work with local vet, community, and all stakeholders involved in field activity.
During field activity, I teamed up with UGM teachers, local researchers, local vets, government staffs, and farmers. It was a brandnew experience for me to organize a surveillance bridging and gathering up that many people from different background. It needed a lot of communication and collaboration to successfully achieve our purpose collecting all blood samples. We discussed and worked together to investigate the epidemiology of parasite for disease control and measurement.

4. Conclusions

We have successfully collected blood samples from both buffalo and cattle in total number of 446. This activity has given me a chance of sharing and testing my skills. I have been able to get advice from different key players based on their practices, experiences, and expertise in the field. Surely, this experience will equip me to be a competent epidemiologist/ parasitologist on *T. evansi*.

（Field Epidemiology・Collaborative Research） Evaluation by supervisor

Institution・Official title・Name	Junya Yamagishi. Associate Proffessor. Center for Zoonosis Control.	印

※1 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：VETLOG

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