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Report from EU-Asia Link Training Course on "Asian Elephant Breeding and Health Management in South East Asia"

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This training course was the fourth in a series of four training courses planned under the framework of the European Union Asia Link Program on "Managing the health and reproduction of elephant populations in Asia". It was organized by the Faculty of Veterinary Medicine, Chiang Mai University (FVM-CMU), the National Elephant Institute (NEI), the Elephant Reintroduction Foundation, Thailand, and the Royal Veterinary College (RVC), London University, UK, with support from the Faculty of Veterinary and Animal Science (FVMAS) of the University of Peradeniya (UP), Sri Lanka, and the Faculty of Veterinary Medicine at Kasetsart University (KU), Thailand.

The course was started with internet based learning during 26. April – 10. May 2010 in home countries, followed by practical training from 24.-28. May 2010 at FVM-CMU, with practical training and field work at NEI and the Elephant Reintroduction Foundation, Thailand. It was attended by 11 international participants from India, Sri Lanka, Indonesia, Laos, Japan and Germany and 9 national participants from both non-governmental and governmental organizations in Thailand (Fig. 1).



Figure 1. Group at the opening ceremony.

The objective of the course was to provide veterinarians, biologists, scientists, zoo and wildlife personnel engaged in the management, conservation, health and breeding of elephants with knowledge and skills on 1) reproductive functions of both male and female elephants; 2) management of breeding animals and methods for natural and artificial breeding; 3) assessment of health status and management procedures for maintaining captive elephants in optimum health.

The internet based training comprised of four units; 1) an overview of reproductive anatomy, physiology and endocrinology; 2) tools for monitoring reproduction: semen evaluation, ultrasonography, hormone assays; 3) breeding and conservation; and 4) health assessment. The aim was to ensure that all participants have a basic knowledge about elephant reproduction and health management before starting the practical training and interactive discussion. Furthermore, the internet based part of the course gave an opportunity for all participants and tutors to meet 'online' introduce themselves and discuss relevant issues before travelling to Thailand to attend the practical course. The tasks during this internet course involved a pre-test and mid course self-assessment tests for the participants to self-evaluate themselves and identify their own learning needs.

The lecture and practical part started 2 weeks after finishing the online course. The topics during the first day included elephant health care and management in Thailand and Sri Lanka, neonatal care, molecular tools for conservation, clinical pathology and wild elephant management. This was followed by the practical part at the elephant hospital at the NEI, Lampang on the second day.



Figure 2. Clinical examination of an elephant.

Trunk wash for diagnosis of tuberculosis was performed with a discussion of other diagnostic procedures, advantages and disadvantages of each method. Later on, the participants were divided in to 3 groups to practice on physical examination and health assessment of 3 elephants (Fig. 2). A demonstration with some participation on wound management, tusk problems, eye problems etc. was performed. The second day ended with a discussion on health management, neonatal care, routine disease monitoring and the treatment of disorders.

The third day comprised of lectures on male and female reproduction, breeding management in Thailand and Sri Lanka and reproductive control, followed by a discussion on reproduction and breeding management. The practical part on male and female reproduction was carried out on the fourth day at NEI. On male reproduction, semen collection and evaluation were performed (Fig. 3), with use of ultrasonography to assess the male reproductive organs. Furthermore, semen quality was assessed by the computer assisted sperm analysis (CASA) machine. On female reproduction, estrus detection by genital inspection test and urine test was performed. Females with known reproductive cycle status were used for endocrine monitoring. The ultrasonography on female reproductive organs was assessed on both specimens and on live animals per rectum. Discussions on male and female reproduction, and breeding management were performed at the end of the day involving all participants.

A field trip to observe the released elephants of the elephant reintroduction project at the Doi Pha Muang Wildlife Sanctuary, Lampang was conducted on the last day. All participants were given information on the background of the wildlife sanctuary, aims and process of elephant reintroduction. Participants were divided in to 2 groups and led into the forest to observe the elephants. The behaviours of individual and social animals were recorded and analyzed to see the overall behavior and migration pattern of these elephants. This course ended with an understanding of health management, captive breeding program and elephant release to the wild.

The training course was a success. The model of delivery, which included an online component prior to the practical course gave participants and tutors an opportunity to prepare well ahead for the valuable practical components and time was utilized in a productive manner. We hope the training course resulted in a greater understanding and skill on the reproductive functions of elephants among the veterinarians and wildlife personnel in Asian and other regions. The course was also an opportunity to develop long-term linkages and networking between the participants and the partner institutes of this EU-Asia Link project. This will inevitably, lead to greater collaboration in elephant management, conservation and breeding activities in Asia and other regions in the world. This course will be arranged again in Chiang Mai, Thailand in June 2011. For more information please visit our website: <http://www.asianelephantresearch.com>

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Figure 3. **S**emen collection and evaluation.