



Summary of workshop:

Strategy for genetic conservation and utilization of endangered or indigenous/native animal species in Asia

co-organized by the Thailand Research Fund (TRF), Japan Science and Technology Agency (JST) and e-ASIA JRP Secretariat

Date: March 1st -2nd, 2018

Venue: Pathumwan Princess Hotel, Bangkok, Thailand

Objectives

- **Strengthen multilateral networking of researchers for the next call of e-ASIA JRP on agriculture (food science)**
- **Explore potential collaborative research subjects in the field**

Topics covered in the WS

Session 1: Chicken (7 presentations)

1. Genetic diversity and the origins of Japanese indigenous chickens
2. Chicken genetic diversity, resource and their utilization in Asia
3. Stem cell application for genetic conservation and utilization
4. Thai native chicken breed development
5. Thai native chicken breed for farmer occupation
6. Conservation and utilization of genetic resources (Lower-northern Thailand)
7. R&D initiatives for native chicken industry development (Phillippines)

Topics covered in the WS

Session 2: Pig and cattle (5 presentations)

1. genetic diversity and resource in Asia
2. cryo-bank system for Vietnamese native pig resources/system to conserve biodiversity
3. Thai Indigenous pig: their diversity and utilization
4. Classification of Thai indigenous cattle breeds using genome wide SNP array
5. Native pig and cattle conservation, improvement and utilization
R&D direction and strategies (Philippines)

Topics covered in the WS

Session 3: Aquatic species (8 presentations)

1. Germ cell transplantation for conservation
2. Aquaculture as a tool for protecting wild species population
3. Indigenous species: a viewpoint of microbial infectious diseases
4. Genetics for utilization/ conservation of Thai native fishes
5. Thai aquatic species based on genomics
6. Genetic variation and conservation strategy for endangered stocks
7. Genetic improvement of Thai native fishes
8. Genomic applications for Philippine aquatic resources

Issues to be addressed through multilateral collaboration

1. Evaluation of genetic diversity of native species/varieties

Many studies revealed great diversity in native genetic resources

Q: Was this fully clarified? If not, how is it possible?

2. Methodology for conservation of genetic resources

Several new technologies are being studied: Stem cell application, cryo-bank system, germ cell transplantation

Q: What technologies are available/may be promising in the future

3. Utilization of genetic resources

Q: For which users/ what purpose can native genetic resources be utilized? And How?

Possible subjects/themes for multilateral research collaboration

- **Strengthen networking of animal resources diversity in Asia**
- **Elucidate the detailed genetic background of the resources by harmoniously using cutting-edge and conventional technologies (genetics, molecular biology, genomics, etc...)**
- **Identify genetic traits conferring tolerance to biotic/abiotic stresses, and nutritional/functional values as food, for utilizing the genetic resources to breeding**

(Continued)

- **Develop multi-faceted methods for the conservation of the genetic resources by developing novel technologies (stem cell and reproductive biotechnology, etc...)**
- **Enhance small farmers livelihood (food security, income) in different production and market ecosystems**

(Precepts confirmed in the workshop)

“Asia: Biodiversity hotspot”

“Conservation requires utilization”