



D4.1 Workshop Report





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D4.1
(WORKSHOP REPORT)

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Europa Media Non-profit Ltd.



Royal Veterinary College



Centre de Coopération Internationale en Recherche Agronomique pour le Développement.



National Veterinary Institute



Shanghai Veterinary Research Institute



Harbin Veterinary Research Institute



China Animal Health and Epidemiology Center



Beijing Chinese Center for Disease Control and Prevention



Sociedade Portuguesa de Inovação



Huazhong Agricultural University

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Acronyms

EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAO/IAEA	Joint FAO/IAEA Division for Nuclear Applications in Food and Agriculture
RVC	Royal Veterinary College
SVA	National Veterinary Institute
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
SPI	Sociedade Portuguesa de Inovação
FLI	Friedrich-Loeffler-Institut
ANSES	ANSES - Nancy Laboratory for Rabies and Wildlife
AHVLA	Animal Health and Veterinary Laboratories Agency
CADC	China Animal Disease Control Centre
CAHEC	China Animal Health and Epidemiology Center
SHVRI	Shanghai Veterinary Research Institute
HVRI	Harbin Veterinary Research Institute
HZAU	Huazhong Agricultural University
Fudan	Fudan University
AI	Avian Influenza
CSF	Classical Swine Fever
ASF	African Swine Fever
PRRS	Porcine Reproductive and Respiratory Syndrome
TADs	Transboundary Animal Diseases



01.

Workshop summary

1.1 Summary

As a part of tasks of WP3 and WP4, the Shanghai Workshop on TADs and Zoonoses was hosted by Shanghai Veterinary Research Institute in Shanghai on April 14-16, 2014. The purpose of the workshop was (i) to exchange the knowledge and experiences on epidemiology, control and prevention strategies of TADs and zoonoses, (ii) to prioritize the list of the interested diseases and (iii) to discuss the activities for establishing a network on control of TADs and zoonoses.

During the three-day workshop, 96 participants including scientists, experts and students from 35 institutions covering three continents, Asia, Europe and America, attended the workshop. With respect to the gender distribution, 37% of participants were female. 32 delegates presented their research findings, which focused on the following diseases:

- TADs: avian influenza (AI), classical swine fever (CSF), African swine fever (ASF), porcine reproductive and respiratory syndrome (PRRS) and Newcastle disease.
- Emerging and reemerging diseases: porcine endemic diarrhoea, duck Tembusu virus infection and variant pseudorabies.
- Zoonoses: rabies, Japanese encephalitis, brucellosis and tuberculosis.

Two officials from FAO/IAEA Joint Laboratory and CADC presented the control policy and strategies, as well as advanced diagnostic technologies.

Chinese colleagues discussed the results of the Chinese literature review and prioritized the list of interested diseases on April 13th. The list of the diseases prioritized by EU and Chinese partners was further evaluated by the audience on April 16th.

The participants extensively discussed how to establish a network on control of TADs and zoonoses. The potential participants and the activities for establishing the network were proposed.

1.2 Brief description of the presentations

The topics of all presentations were carefully selected based on the previous discussion among the project partners. The presentations were categorized into the following sessions.

1.2.1 AI

This session focused on the epidemiology and ecology of AI. The experts presented the updated information of H5N1, H7N9 and other AIs. The topics included the prevalence of AI in animals, the virological features of H7N9, the spatial epidemiology of H5N1 and H7N9, and the role of wild birds in AI transmission and persistence. Regarding the challenges in AI control, the experts discussed the spread of AI in poultry market chain, the issues in diagnostic and

vaccination, the strategies for preventing H7N9 incursion in risk countries, and the mathematical models to support AI control.

1.2.2 ASF

The impact of ASF on pig industry was emphasized by both EU and Chinese colleagues. The expert from CIRAD presented the spreading and endemicity of ASF in Europe and Africa, and discussed what are the risks for East Asia. The expert from CAHEC introduced the strategies for surveillance of ASF incursion in China, and discussed how to improve the methods for effective surveillance.

1.2.3 PRRS

The epidemiology and evolution of PRRS virus were presented by EU and Chinese experts. The current challenges in PRRS control was discussed among the participants, especially, the emerging of highly pathogenic PRRS and the complexity of mixed infections. A dual-marker vaccine for highly pathogenic PRRS was introduced by Chinese expert and the advantage and shortage of this vaccine was discussed.

1.2.4 CSF

The expert from SVA reviewed the current situation of CSF in Europe and presented the information on surveillance, control and recent diagnostic developments. The expert from HVRI introduced the control strategies of CSF in China and discussed the opportunities for collaboration and current challenges.

1.2.5 Emerging and reemerging diseases

Chinese colleagues presented on three newly-emerged and reemerged diseases in China: the porcine epidemic diarrhea, variant pseudorabies, and duck Tembusu virus infection. The epidemiology, virological features, diagnosis and control, and impact on industry were reviewed and discussed.

1.2.6 Zoonoses

This session focused on the epidemiology and current challenges of zoonoses, such as rabies, Japanese encephalitis, brucellosis and tuberculosis. The experts from EU and China presented their research findings on the surveillance, diagnosis and vaccine development, and discussed the difficulties in disease control and prevention.

1.2.7 Policy and Control Strategies

The officials from EU and China illustrated the legislation, disease control structure and strategies in EU and China. The EU reference laboratories and diagnostic technologies were also introduced.

1.3 Topics discussed

One of goals of WP4 is to establish a network for collaboration between EU and Chinese laboratories. In the general discussion sessions, the participants discussed how to establish the network. Three topics were pointed out for discussion, which are as follows:

- What diseases are interested by EU and Chinese partners for collaboration?
- Who is potential for collaboration?
- How does the collaboration achieve?

After the workshop, the discussion were further performed through e-mail and finalized as follows:

1.3.1 Lists of the prioritized diseases

The diseases interested by EU and Chinese partners were selected based on the discussion and literature review (the result of WP2). Several diseases will be picked up for collaboration during the course of the project.

1.3.1.1 The list from China discussion and literature review

- Influenza (all subtypes)
- PRRS
- CSF
- Newcastle disease
- Porcine epidemic diarrhea
- ASF
- Japanese encephalitis
- Pseudorabies (variant)
- Rabies
- Brucellosis
- Tuberculosis
- Antimicrobial resistance

1.3.1.2 The list from EU discussion and literature review

- Influenza (all subtypes)
- ASF
- Antimicrobial resistance
- Vector-borne diseases
- Rabies
- Goat/sheep pox

- Tuberculosis
- Schmallenberg virus
- Salmonellosis
- Swine vesicular disease
- Brucellosis
- CSF
- PRRS

1.3.2 Potential institutions to participate in the network

All institutions involved in WP4 are potential to participate in the network. In addition, other institutions, for example Friedrich-Loeffler-Institut (FLI), ANSES - Nancy Laboratory for Rabies and Wildlife, Animal Health and Veterinary Laboratories Agency (AHVLA), and EU reference laboratories will be invited to participate in the network.

1.3.2.1 The institutions from EU

- FAO (Food and Agriculture Organization of the United Nations)
- RVC (Royal Veterinary College)
- SVA (National Veterinary Institute)
- SPI (Sociedade Portuguesa de Inovação)
- CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement)
- ANSES - Nancy Laboratory for Rabies and Wildlife
- FLI (Friedrich-Loeffler-Institut)
- ANSES (ANSES - Nancy Laboratory for Rabies and Wildlife)
- AHVLA (Animal Health and Veterinary Laboratories Agency)

1.3.2.2 The institutions from China

- CADC (China Animal Disease Control Centre)
- CAHEC (China Animal Health and Epidemiology Center)
- HVRI (Harbin Veterinary Research Institute)
- SHVRI (Shanghai Veterinary Research Institute)
- HZAU (Huazhong Agricultural University)
- Fudan (Fudan University)

1.3.3 Activities proposed for establishing the network

To establish a network for control of TADs and zoonoses, the following activities have been considered.

- Organize several short-term visits to EU and China
- Train young scientists in epidemiology

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- Share disease information
 - Transfer and share technologies for diagnosis and disease control
 - Exchange research materials, such as antibodies and genes (excluding pathogens)
 - Co-apply for grants
 - Joint research on interested diseases (emerging disease: epidemiology, disease impact, etc.)
 - Joint studies on a specific case for epidemiology, pathology, methodology, etc.
 - Organize and participate workshops/meetings related to disease control
 - Communicate on strategies and policies for disease control at official levels

Photos of Shanghai workshop



Figure 1 - Group photo of Shanghai workshop



Figure 2 - Presentation



Figure 3 - Visiting the laboratory



02.

Agenda

Agenda of Shanghai Workshop

Theme: Bridging research activities on trans-boundary animal disease and zoonoses between China and EU

Date: April 14-16, 2014

Place: Shanghai Veterinary Research Institute, Shanghai, China

Date: April 13th

- Registration at Wujing Branch of Huhua International Hotel
- 20:00-21:00 WP2 group meeting at the third floor meeting room of the hotel (Organizer: China Animal Disease Control Centre; Discussions on the Chinese literature review; WP2 Chinese participants)

WORKSHOP 1: Epidemiology and Ecology of Avian influenza

Organizers: LinkTADs WP3 project (Centre de Coopération Internationale en Recherche Agronomique pour le Développement) and NIH NIAID project (University of Oklahoma)

Date: April 14th Room B301

9:00-9:30 Opening (Session Chair: Zhiyong Ma)

- Officials welcome speech (Guangzhi Tong, Shanghai Veterinary Research Institute, China)
- LinkTADs project presentation (John Edwards, FAO-China)
- NIH project presentation (Xiangming Xiao, University of Oklahoma, USA)

9:30-11:40 Updates on H5N1, H7N9 and other AIV (Session Chair: Julien Cappelle) (Each presentation is 20 minutes plus 5 minute Q/A)

- AIV animal infections and surveillance in China (Zhang Yi, China Animal Health and Epidemiology Centre, China)
- H7N9 in China: the epidemiological and virological features (Dayan Wang, China CDC, China)
- Spatial epidemiology of H5N1 and H7N9 (Marius Gilbert, Université Libre de Bruxelles, Belgium)
- The role of wild birds in AIV introduction, spread and persistence (John Takekawa, USGS Western Ecological Research Center, USA)
- Discussion (knowledge gaps and challenges)

11:50 Group Photo

12:00-13:00 Lunch

13:00-15:00 Challenges in AIV control in Asia (Session Chair: Xiangming Xiao) (Each Presentation is 20 minutes plus 5 minutes Q/A)

- Poultry industry market chain and the spread of AIV (Fusheng Guo, FAO-China)
- Diagnostic and vaccination of AIV (Chengjun Li, Harbin Veterinary Research Institute, China)
- Preventing and preparing for H7N9 incursion in risk countries (Scott Newman, FAO- Vietnam)
- Mathematical models to support disease control (Michael Tildesley, University of Exeter, UK)
- Discussion (knowledge gaps and challenges)

15:15-15:30 Tea break

15:30-17:30 AIV Expert Opinion Survey and General Discussion Session (Session Chairs: Julien Cappelle and Xiangming Xiao)

- Questionnaire survey and analysis

- **General Discussion (Ways to forward)**

18:00 Dinner

Date: April 15th Room A211

9:00-18:00 Parallel Session on Avian Influenza
(Session Chair: Xiangming Xiao)

WORKSHOP 2: Establishing Network for Control of Animal Diseases and Zoonoses

Organizer: LinkTADs WP4 project (Shanghai Veterinary Research Institute)

Date: April 15th Room B301

9:00-10:30 Policy and Control Strategies (Session Chair: Trevor Drew) (Each presentation is 40 minutes plus 5 minute Q/A)

- The EU legislation, disease control structure and research (Ivancho Naletoski, FAO/IAEA)
- The Chinese legislation, disease control structure and strategies (Shengpeng Xin, China Animal Disease Control Centre, China)

10:30-11:40 Trans-boundary animal diseases (ASF session) (Session Chair: Huaji Qiu) (Each presentation is 30 minutes plus 5 minute Q/A)

- Spreading and endemicity of African swine fever in Europe and Africa: what are the risks for East Asia? (François Roger, CIRAD, Campus International de Baillarguet, France)
- Laboratory Surveillance of African swine fever in China (Xiaodong Wu, China Animal Health and Epidemiology Centre, China)

12:00-13:00 Lunch

13:00-14:45 Trans-boundary animal diseases (PRRS session) (Session Chair: François Roger) (Each presentation is 30 minutes plus 5 minute Q/A)

- PRRS evolution and challenges in control (Trevor Drew, Animal Health and Veterinary Laboratory Agency, United Kingdom)
- Development and application of a dual-marker vaccine for highly pathogenic PRRS (Guangzhi Tong, Shanghai Veterinary Research Institute, China)
- Highly pathogenic PRRS: Epidemiology, prevention and control (Xinyan Zhai, China Animal Disease Control Centre, China)

14:45-15:00 Tea break

15:00-16:45 Trans-boundary animal diseases (Session Chair: Ivancho Naletoski) (Each presentation is 30 minutes plus 5 minute Q/A)

- Control of classical swine fever within the European Union; a review of the current situation with emphasis on surveillance, control and recent diagnostic developments (Frederik Widén, National Veterinary Institute, Sweden)
- Control of classical swine fever in China: opportunities and challenges (Huaji Qiu, Harbin Veterinary Research Institute, China)
- The evolution of Newcastle disease virus (Chan Ding, Shanghai Veterinary Research Institute, China)

16:45-17:30 General discussion (Session Chair: Zhiyong Ma)

18:00 Group Dinner hosted by Boehringer-Ingelheim

Date: April 16th Room B301
9:00-9:40 Laboratory technology (Session Chair: Zejun Li) (Presentation is 35 minutes plus 5 minute Q/A)
<ul style="list-style-type: none"> ● Advanced diagnostic technologies (Ivancho Naletoski, FAO/IAEA)
9:40-10:10 Visiting Shanghai Veterinary Research Institute
10:10-11:40 Emerging and reemerging diseases (Session Chair: Lihong Liu) (Each presentation is 25 minutes plus 5 minute Q/A)
<ul style="list-style-type: none"> ● Pathogenic investigation and analysis of piglets diarrhea in pig farm in China (Li Feng, Harbin Veterinary Research Institute, China) ● Characteristics of newly emerged duck Tembusu virus (Zejun Li, Shanghai Veterinary Research Institute, China) ● Emerging pseudorabies virus variant in China (Hao Zheng, Shanghai Veterinary Research Institute, China)
12:00-13:00 Lunch
13:00-14:45 Viral Zoonoses (Session Chair: Xinyan Zhai) (Each presentation is 30 minutes plus 5 minute Q/A)
<ul style="list-style-type: none"> ● Means for rabies control and surveillance in domestic and wild animals (Marine Wasniewski, ANSES - Nancy Laboratory for Rabies and Wildlife, France) ● Rabies epidemic and control in China (Ling Zhao, Huazhong Agricultural University, China) ● Challenges in control of Japanese encephalitis virus (Zhiyong Ma, Shanghai Veterinary Research Institute, China)
14:45-15:00 Tea break
15:00-16:45 Bacterial Zoonoses (Session Chair: Jingli Kang) (Each presentation is 30 minutes plus 5 minute Q/A)
<ul style="list-style-type: none"> ● Investigation, prevention and control of Brucellosis in China (Weixing Fan, China Animal Health and Epidemiology Centre, China) ● Brucellosis control in China (Shichun Ma, China Animal Disease Control Centre, China) ● Control and confusion for bovine tuberculosis (Aizhen Guo, Huazhong Agricultural University, China)
16:45-17:20
<ul style="list-style-type: none"> ● Literature review presentation and the discussion on priority issues and collaboration (Louise Wall, Royal Veterinary College, United Kingdom)
17:20-18:00 Discussion and Closing remarks (Session Chair: Zhiyong Ma)
18:00 Dinner