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中华人民共和国农业农村部
Ministry of Agriculture and Rural Affairs of the People's Republic of China

Draft Concept Note

Regional Workshop on Zoonotic Tuberculosis and Brucellosis Control in the Asia Pacific Region

24-26 September 2024, Qingdao Sophia International Hotel, Qingdao, China, P.R.
Jointly with China Animal Health and Epidemiology Centre (CAHEC)

1. Background:

Globally, as per the WHO Global Tuberculosis Report of 2023, in 2022, **Tuberculosis** (Mycobacterium tuberculosis) was the second leading infectious human disease killer after COVID-19 and an estimated 1.3 million people died of the disease. Nearly 90% of all human TB cases are located in South Asia (India, Bangladesh, Pakistan), East Asia (China), Southeast Asia (Philippines, Indonesia) and, the most populous countries in Africa (South Africa and Nigeria).

Bovine tuberculosis (bTB) is a chronic bacterial disease of animals caused by members of the *Mycobacterium tuberculosis* complex primarily by *M. bovis*, but also by *M. caprae* and to a lesser extent *M. tuberculosis*. It is a major zoonotic disease, and cattle are the main source of infection for humans. It also affects other domesticated animals such as sheep, goats, equines, pigs, dogs and cats, and wildlife species such as wild boars, deer and antelopes. Bovine tuberculosis remains a serious problem for animal and human health in many developing countries, including parts of Asia reporting high prevalence.

Zoonotic tuberculosis (zTB) is a form of tuberculosis that is transmitted from animals to humans, mainly through consumption of raw or undercooked animal products, contact with infected animals or their secretions, or inhalation of aerosols. Zoonotic TB is a form of TB in people predominantly caused by a closely related species, *M. bovis*, which belongs to the *M. tuberculosis* complex (MTBC) which includes several species that can infect humans and animals. The most common cause of zTB is *Mycobacterium bovis*, which is also responsible for bovine tuberculosis (bTB) in cattle and other domestic and wild animals. zTB poses a serious threat to public health and animal health, especially in low- and middle-income countries where the disease is endemic and control measures are inadequate. zTB is often underdiagnosed and underreported, due to the lack of awareness, resources, and diagnostic tools. zTB can also be resistant to some of the first-line anti-TB drugs, making the treatment more difficult and costly.

The current status and needs for zoonotic tuberculosis are summarized in the Roadmap for Zoonotic Tuberculosis[1], which was published in 2017 by the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (WOAH), and the International Union Against Tuberculosis and Lung Disease (The Union). The Roadmap outlines ten priorities for addressing the existing challenges posed by zTB, divided into three major core themes: (1) Improve the scientific evidence, (2) Reduce transmission at the animal-human interface, and (3) Strengthen intersectoral and collaborative approaches. The Roadmap calls for concerted action through broad engagement across political, financial and technical levels, including government agencies, donors, academia, non-governmental organizations and private stakeholders. The roadmap also provides a framework for monitoring and evaluating the progress and impact of the interventions.

Of the 10 million people currently infected with new active TB, 140,000 are estimated to be new cases of zTB (1.4%) of which an approximately 11,400 (8.1%) died. However, zTB disease is largely underreported and, these wide ranges are indicative of major diagnostic challenges and poor public health surveillance and reporting structures in endemic countries. To support the Roadmap for Zoonotic Tuberculosis and as a call for action to tackle zTB in people and animals, WOAH has developed guidelines for alternative strategies for TB control in livestock. The objective of these guidelines is to provide alternative strategies for control of Mycobacterium tuberculosis complex infection in livestock.

Brucellosis is a neglected zoonotic disease of economic importance that is endemic in most of the lower and middle-income countries in the world including the Asia Pacific Region. Important species affecting food animals include *Brucella abortus* in cattle, *B. melitensis* in small ruminants, and *B. suis* in pigs. Besides being an occupational hazard for people working with animals such as livestock farmers, veterinarians, abattoir workers, laboratory workers, etc. through direct contacts, the disease can be transmitted indirectly to humans via consumption of non-pasteurised milk, and milk products. Brucellosis can result in economic losses in terms of reduced production due to infertility, abortions, decreased milk production, and costs for prevention, control, and elimination. The WOAH's world animal health information system (WAHIS) report for 2019 shows that the disease has been officially reported to be present in animals in most of the 32 WOAH Members in the region. A study in India in 2015 showed the disease caused a loss of US $ 3.4 billion in total of which losses in cattle and buffalo industries accounted for 95.6% of the total losses. Human brucellosis is one of the commonest zoonoses reported worldwide with estimated annual cases up to 500,000. Another study in India in 2018 showed an estimated annual median loss of about US $ 10.46 million and a loss of 177,601 disability adjusted life years (DALYs) at the rate of 0.15 DALYs per thousand persons per year. Likewise, the disease continues to result in significant economic losses in livestock production and human health costs in the other countries in the Asia Pacific Region. In Indonesia, a study in 2018 reported that brucellosis resulted in loss of up to 1.8% of the total value of livestock assets. Besides domestic animals, the disease has been reported in wild animals such as camels, Asian badgers, Himalayan marmots, and blue sheep although the role of wildlife in the disease epidemiology is still not clearly understood. A few countries have also reported changes in the dominance of *Brucella* species such as *B. melitensis* dominating over *B. abortus*. In several workshops/meetings organised by WOAH, including the Tripartite-led zoonoses workshops (multisectoral coordination mechanisms), countries have identified brucellosis as one of the priority diseases in their Members.

The WOAH Regional Representation for Asia and the Pacific (WOAH RRAP) supported by the WOAH Reference Laboratories for Brucellosis in China and Thailand organised the OIE Webinar on Progress and Challenges in Brucellosis Control in the Asia Pacific Region in 2021 wherein key updates and challenges in brucellosis control were discussed. This was followed by the "Virtual Workshop on Brucellosis Control in the Asia Pacific Region" organised jointly by WOAH RRAP, WOAH Collaborating Centre for Food Safety, Rakuno Gakuen University, Japan, and WOAH Reference Laboratories for Brucellosis based in Thailand, South Korea and Italy. These workshops recommended that WOAH and its Reference Laboratories continue to engage its Members in understanding the progress, gaps, and challenges faced in brucellosis control in the region so that appropriate support may be provided to countries.

Therefore, a regional workshop on zTB and Brucellosis is being jointly planned by WOAH RRAP in collaboration with the China Animal Health and Epidemiology Centre (CAHEC) – WOAH Collaborating Centre. The workshop will provide an opportunity to share the latest updates in disease

epidemiology worldwide and regionally, advances in diagnostics and vaccines, good practices, and an opportunity for networking between countries and experts working on zTB and brucellosis. The workshop is expected to also provide information on gaps and challenges faced by Members in the Asia Pacific Region for WOAH and its partners to follow up with each Member for necessary support and collaboration.

2. Objectives:

The workshop will be held with the following objectives:

i) Share updates on regional disease situation, progress and challenges in zTB and animal brucellosis control in the Asia Pacific Region.
ii) Share experiences, good practices and learn from each other on the disease surveillance and control options used in the Asia Pacific Region and elsewhere.
iii) Discuss ongoing capacity building support for zTB and brucellosis diagnosis, surveillance and control and identify priority areas or way forward to expedite control and elimination of these two diseases from the region.

3. Expected outputs

i. Participants updated on the national, regional and global situation of zTB and brucellosis in animals and humans.
ii. Participants understand good practices in the prevention and control options available/used in the region for the two zoonotic diseases for adoption in their countries/territories.
iii. Gaps and priority areas identified for countries/territories, WOAH and partners to work on expediting activities towards prevention and control of zTB and brucellosis in the region.

4. Participants

Senior veterinarians/animal health officials leading zTB and brucellosis control programs at national/sub-national levels in the 32 WOAH Members of Asia Pacific Region will be the target participants.

5. Resource persons and facilitators

Experts from the WOAH Reference Centres will be invited to provide presentations on latest situation and updates on zTB and brucellosis and assist in facilitation/moderation of the group works. Speakers from selected Members and other organisations such as FAO and WHO will also be invited to present their ongoing national control programs and share experiences. Staff from WOAH HQ working on these two diseases will also be invited to join the workshop to share information on WOAH's Standards and global initiatives on the two diseases.

6. Workshop format

The workshop will be organized in-person to allow face-to-face discussion time between the participants. The workshop will be a combination of presentations (using PowerPoint® and/or video) and group/plenary discussions. There will be opportunities throughout the workshop for participants to ask questions of the facilitators and other participants. Online software platforms available in China may be used to make the workshop more interactive and interesting. Members will be asked to prepare posters on the two diseases to share their situation, progress, challenges and priorities which would help in understanding the regional situation and identify specific country/territory needs.

7. Invitations/visa

WOAH RRAP will send initial invitations to the WOAH Delegates of Members in the region to make nominations as per prescribed criteria. We will ask Members to nominate ONE participant from the Veterinary Services who should be a Veterinarian/Animal Health Officer working at national level responsible for coordinating and implementing zTB and Brucellosis control program at national level. The nominated participants will be required to register for the workshop using an online link (which will be provided in the invitation letter).
Based on the nominations received and registration completed, CAHEC under the Ministry of Agriculture and Rural Affairs (MARA) will then issue personalised visa facilitation letters to the nominated participants for their visa application.

8. Language

The workshop will be conducted in English.

9. Venue and dates

The workshop will be conducted at Qingdao Sophia Hotel in Qingdao, China on 24-26 September 2024.

10. Logistics

10.1 Organizers

The WOAH RRAP will jointly organise the workshop supported logistically and technically by CAHEC under MARA.

10.2 Budget

Thanks to the generous support of the People's Republic of China, WOAH RRAP will bear the cost of the workshop including travel and accommodation expenses for WOAH funded participants and speakers. Other participants including observers from the Quadripartite and partners are expected to bear their own cost of attendance. WOAH will not be responsible for life/medical/travel insurance of the participants or for costs resulting from any illness, accidents or loss which may occur during travel and/or workshop attendance.
Donor visibility will be ensured in all workshop materials.

11. Contact points

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