

**Minutes of the first meeting of the
Avian Influenza Working Group of the Laboratory Diagnosis Sub-Committee
Held on 3-4 March, 2008 at the Regional Animal Health Centre
Gaborone, Botswana**

Background

In its efforts to support the fight against the incursion of HPAI into the Southern African Region, FAO has opened an office in Gaborone, which forms part of the *Regional Animal Health Centre for Southern Africa*. This office is in existence since June 2007 and has since given financial and technical support to one meeting each of the *SADC Joint Technical Committee*, the *SADC Epidemiology and Informatics Sub-Committee* and the *SADC Laboratory Diagnosis Sub-Committee*, all meetings were held with emphasis on Avian Influenza.

During the meeting of the *Laboratory Diagnosis Sub-Committee* in November 2007, it was realized that the issue could not be discussed in sufficient depths for technical details and the Committee supported the formation of a smaller Working Group, which should discuss these technical questions and report outcomes and recommendations back to the Committee. Some of those technical questions were posed at the Committee's November meeting, such as "recommendations on the use and usefulness of sero-surveillance for AI in SADC region".

Also in view of upcoming regional, donor funded, projects and other opportunities for laboratories in the region, the first meeting of the Working Group was held **before** the upcoming next meeting of the Sub-Committee, so that recommendations can be formulated in time.

Participation

In line with the recommendation of the Sub-Committee, the members of the Working Group, namely Tanzania (Coordinator), South Africa, Zambia, Lesotho, DRC and OVI were invited. Through the Senior Program Manager, the Chair Person of the Epidemiology and Informatics Sub-Committee was requested to select some members of his Committee to also attend this meeting, in order to be able to address all aspects of the upcoming topics. Dr from Padova IVSze was on stand-by to contribute his expertise by phone, in case it would be required.

Methodology

Some general broad themes were formulated for the agenda (enclosed), but proceedings were rather informal and based on extensive discussion until consensus was reached and resolutions / recommendations could be formulated.

This report will present the lead question, give a summary of the discussions held and the resulting conclusions / recommendations.

Outcome of the meeting

1. *Terms of Reference for the Working Group*

It was agreed, that the Working Group should NOT become a permanent group, but an ad-hoc group to meet on request of the Sub-Committees, preferably in between two meetings.

The following Terms were formulated:

Purpose

To respond to technical questions on Avian Influenza posed by the Lab/Epi Sub committees and provide these SCs with technical recommendations before their next meeting

Objective

- Enhance surveillance and lab diagnostic capacity for AI
- Harmonize protocols amongst countries along the lines of OIE recommended tests
- Advise Lab SC on technical needs/requirements that make labs' work on AI more efficient

Modus operandi

- Meetings to be conducted as frequently as required by the Lab SC (funds permitting)
- Foster collaboration between the two SCs
- Collaborate with projects/initiatives/donors

2. *Development of SOPs for surveillance and diagnosis of HPAI in SADC countries*

It was agreed that active sero-surveillance for Avian Influenza should be discouraged, unless a country wants to invest into gaining an insight knowledge on the circulation of Low Pathogenic AI viruses in their poultry population.

However, it was well accepted that such active sero-surveillance, combined with clinical surveillance could be carried out in identified high risk areas and / or during wild bird migration time in areas of close encounters with domestic poultry.

It was also accepted that active sero-surveillance needs to be carried out in commercial poultry set-ups that export birds, e.g. ostriches from Botswana, South Africa and Namibia.

It was agreed to support passive surveillance (clinical, serology and rapid testing for Antigen) during reported massive deaths and during vaccination campaigns against NCD (see below).

Recommendations from this discussion:

On data formats to be used for AI data collection

- Passive surveillance data collection to remain with national formats but they should be dedicated to AI
- Reference can be made to FAO minimum requirements on info to be collected

On use of Rapid Tests

- WG recommends the use of RT in the field and GV should purchase a stock of these tests
- Their use should be accompanied by the correct conditions for transport (-80 degree) of samples to Ref. Lab for virus isolation

On the laboratory side, participants agreed that all laboratories should have SOPs for the recognized tests ELISA, AGID, HA/HI, adapted to their respective laboratories. It was agreed

that ALL laboratories should bring the SOPs for these tests to the next Sub-Committee meeting and that a Ring Test should be organized under the leadership of OVI.

Recommendations from this discussion:

- Use OIE recognized tests (AGID, HA/HI)
- Tests should be validated, ring-tested and performed under good laboratory practices (see below)
- Transportation should be done following IATA safety rules
- CVL shall provide sampling kits, packaging materials and sampling guidelines to the field teams

Steps to establish SOPs

1. Each lab to develop the SOPs (customized) for the recommended tests and send them to Chair of Lab SC
2. SOP documents to be harmonized by group of 3 experts (ZIM; SA; OVI)
3. organize a ring-test, with lead lab providing sample; first phase analysis of the results, (request to be formulated to OVI)
4. Discuss in Working Group, in case there are significant differences,
5. check those labs by site visits

3. *Newcastle Disease and Avian Influenza*

It was agreed that countries should be encouraged to increase efforts for nation-wide regular NCD vaccination campaigns in order to have better access to poultry producers for AI clinical surveillance and to be in a better position to sensitize them for AI, but also to exclude NCD, in case of a suspected outbreak.

Zimbabwe might become an exporter of I2 thermo-stabil vaccine, once it has moved its production to the BSL 3 laboratory at the University.

This approach is already successfully implemented in Zimbabwe (in the framework of a FAO project) and in Tanzania. All countries present at the meeting tested birds with suspicion of NCD also for AI. The meeting recommended that this should be done region wide.

Recommendations from this discussion

- GV should make NCD control a priority in view of the AI threat
- Promote the use of good quality thermo-tolerant vaccine
- Vaccination campaigns against NCD could be one of the main strategies in the early detection of AI

- Each lab should have:
 - the capacity to diagnose NCD
 - Diagnostic capacity for sero-monitoring
 - Capacity to do quality control of I-2 vaccine
- Test each sample for both NCD and AI

4. *Capacity of countries in surveillance and diagnosis*

It was agreed to have a look at the questionnaire that was sent to the West and Central African laboratory network to guide the discussion. After the presentation it was agreed that this questionnaire should be amended and should be sent to all SADC laboratories and should be

completed asap. Support to training, laboratory equipment and reagents/consumables could be requested on the basis of the analysis of this questionnaire.

Agreed amendments to the questionnaire:

- Include: is there capacity for NCD sero-monitoring and vaccine quality control
- Remove questions on safety and quality control
- Expand on questions related to AI tests practiced at the lab, define the minimum requirements (Felix Majiwa to assist here)
- Lab people to liaise with Epi colleagues on questions regarding epidemiology teams and field sampling
- Modify questions on equipment to give room to state that they could be shared between different departments within the lab
- Request that staffing list be appended
- Request that national disease investigation form (general or, if existing, specific for AI) and laboratory submission form be appended

5. Overview on ongoing initiatives

5.1 Country reports

Tanzania

- Surveillance in wild birds is ongoing by private company funded by USAID. Samples are tested by RT-PCR

Zambia

- Carries out targeted surveillance in wild birds during migration period in November to February, combined with collection of cloacal samples from village chicken nearby
- CIRAD wild bird surveillance project has come to an end, results are available
- Worldbank has provided lab supplies and 2 vehicles

OVI

- They run surveillance programme on NDC and AI to search for LPAI virus circulating (since 2002)
- Wild bird surveillance under GRIPAVI program
- Collaborate in GAINS program and test samples from wild birds from all over Africa
- They are about to apply to SANA for accreditation of AI tests
- Have applied as OIE Reference Lab for AI, as the refurbishing of facilities is now complete
- Collaborate with CDC group at NICD

DRC

- Get support from the *Great Lakes Project* (FAO – DRC, Rwanda, Burundi)
- Have RT-PCR but are not yet using it for AI
- Use Rapid Tests for Antigens in the field
- Carry out sero-surveillance for NCD and AI (limited)

Zimbabwe

- Their NCD tests are SANAS accredited
- The BSL3 lab building is finished, FAO will assist in equipping the lab
- NC samples are always also checked for AI
- Routine sero-surveillance in 3 commercial chicken farms and all ostrich farms
- CIRAD operates a project on wild bird surveillance in collaboration with OVI
- FAO implements a project on NCD vaccination with AI awareness

Botswana

- Passive surveillance by field personnel, in case of suspicion, they send samples to CVL and OVI
- Active sero-surveillance 2 x/year in ostriches for export
- Botswana ostrich company vaccinates chicken around the ostrich farms against NCD!
- GAINS project in Magadigadi pans

Swaziland

- Engaged in AI communication
- Carry out routine passive surveillance
- Samples from NCD outbreaks are sent to OVI
- Will embark on targeted surveillance with SPINAP and GV funding
- Have the required tests, but lack reagents

Namibia

- Carry out routine passive surveillance and active surveillance in ostrich farms
- All vets and chief technicians were trained on recognition, sampling and sample submission
- They try to investigate all reports on dead chicken also for AI, but it does not work well in communal areas, as NC is not frequently reported
- Have import control on caged birds with 30 days quarantine
- Monitor pigeon flocks with sentinel birds
- Have PCR and HI as tests at their lab

South Africa

- Active surveillance on commercial farms for trade
- Have three provincial labs fit for AI diagnosis (serology)

5.2 *FAO, OIE, AU-IBAR presentations*

AU-IBAR presented an overview on the SPINAP project.

OIE stated that its main focus is on strengthening veterinary services and to set standards, e.g for diagnostic tests for AI and regulations to declare a country free from AI (after an outbreak). Their engagement in the region is seen in the context of the RAHC, with specific support to the JTC meeting.

FAO presented the different ongoing projects in support of the region:

- USAID funding for regional activities such as training, support to labs, and support to selected countries (Zambia, Malawi, Zimbabwe, Mozambique)
- Support to lab and epi networks under Canadian funding
- FLUTRAIN project: training in PCR for Zambia
- Ring testing between Padova and OVI
- Country projects: Angola, Zimbabwe

It was pointed out that the Sub-Committees and this Working Group have an important role to play to advise on the use of these funds, e.g those in support of epi and lab networks

6. *Upgrading of laboratories for the diagnosis of AI*

It is well acknowledged, that OVI gives enormous support to the region by testing samples submitted from the SADC countries. However, it was clearly stated, that OVI is first and

foremost a national laboratory which has to serve national requirements first and thereafter attends to other samples.

It would therefore be beneficial for the region, if another lab in the region could offer the same services and hence provide an alternative option for sending samples to.

The question on how to select such a country/lab was discussed intensively and it was agreed that this selection should be based on a set of criteria as follows:

- The upgrade has to fit into the overall development plan of a given lab to guarantee sustainability and being able to cover maintenance costs
- Easy accessibility for SADC countries (sending of samples, communication, scientific visits, training)
- Experience with handling samples from other countries
- Qualified human resources with competence in diagnostic virology (minimum 2 people, at least one with BSc Vet Med, experience min 2 yrs diagnostic virology lab)
- Pattern of staff-turn over with this qualification
- Experience with NCD virus isolation
- BSL 2 upgradable to BSL 3
- Sufficient space in the building (nr of lab rooms) which can be dedicated to diagnostic PCR
- Accreditation status: accredited OR in the process of accreditation
- Willingness to provide AI confirmation services to other countries

It was recognized that OVI is servicing the SADC countries, however, it is mainly the neighboring countries that benefit the most from this service (e.g. NA. BW, LES, SWAZI, MOZ, ZIM). The second group of ANG, ZA, MAL submits less samples due to accessibility and funding possibility.

In case funding could be sourced, the group identified 2 different approaches:

- 1) Select a lab in a country of group 1 to relieve OVI
- 2) Select a lab in a country of group 2 and thereby develop SADC as a region

It is suggested to commission an independent consultancy to make a proposal, using the above identified criteria and taking into consideration the two scenarios for regional development.

Conclusion

The outcomes of this meeting will be presented to the forthcoming Laboratory diagnosis Sub-Committee meeting for their endorsement.

The questionnaire will be amended by Dr Munstermann and forwarded to Dr Makaya, Chair of the Sub-Committee, for distribution to its members. A brief questionnaire on identifying training needs for vets and technicians on field surveillance shall be proposed by Dr Munstermann and sent to Dr Bamhare for his comments and inputs and forwarding to the members of his Sub-Committee. It is recommended that a brief summary of this meeting shall also be presented to the forthcoming Epidemiology and Informatics Sub-Committee meeting.

Appendices

Appendix 1 : List of participants

Appendix 2 : List of internet references

Appendix 2. List of internet references

OIE	www.oie.int
FAO	www.fao.org
AU-IBAR	www.au-ibar.org
GAINS	www.gains.org
GRIPAVI	www.cirad.fr/en/presse/communique.php?id=302
OVI	http://www.arc.agric.za/home.asp?pid=2564