



## *Report*

# **Stakeholders Meeting for Emerging Pandemic Threats FAO, OIE and WHO IDENTIFY PROJECT**

Entebbe, Uganda,  
2-4 November 2010

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## Abbreviations

|               |   |
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| <b>AFENET</b> | African Field Epidemiology Network                      |
| <b>AFRO</b>   | WHO African Regional Office                             |
| <b>AI</b>     | Avian Influenza   |
| <b>ASF</b>    | African Swine Fever                                     |
| <b>BSL</b>    | Biosafety Level   |
| <b>BTB</b>    | Bovine Tuberculosis                                     |
| <b>CAR</b>    | Central African Republic                                |
| <b>CBPP</b>   | Contagious Bovine Pleuropneumonia                       |
| <b>CDC</b>    | US Centers for Disease Control and Prevention           |
| <b>DRC</b>    | Democratic Republic of Congo                            |
| <b>ELISA</b>  | Enzyme-Linked Immunosorbent Assay                       |
| <b>EQA</b>    | External Quality Assurance                              |
| <b>EPT</b>    | Emerging Pandemic Threats Program                       |
| <b>FAO</b>    | Food and Agriculture Organization of the United Nations |
| <b>FMD</b>    | Foot and Mouth Disease                                  |
| <b>IAEA</b>   | International Atomic Energy Agency                      |
| <b>IDS</b>    | Integrated Disease Surveillance                         |
| <b>IDSR</b>   | Integrated Disease Surveillance and Response            |
| <b>IHR</b>    | International Health Regulations                        |
| <b>IQA</b>    | Internal Quality Assurance                              |
| <b>LIMS</b>   | Laboratory Information Management Systems               |
| <b>LSD</b>    | Lumpy Skin Disease                                      |
| <b>MPX</b>    | Monkeypox   |
| <b>NCD</b>    | Newcastle Disease                                       |
| <b>OIE</b>    | World Organisation for Animal Health                    |
| <b>PCR</b>    | Polymerase Chain Reactions                              |
| <b>PPR</b>    | Peste des Petits Ruminants                              |
| <b>QA</b>     | Quality Assurance                                       |
| <b>RVF</b>    | Rift Valley Fever                                       |
| <b>TBD</b>    | Tick Borne Diseases                                     |
| <b>USAID</b>  | United States Agency for International Development      |
| <b>WAHID</b>  | World Animal Health Information Database                |
| <b>WAHIS</b>  | World Animal Health Information System                  |
| <b>WHO</b>    | World Health Organization                               |

## Executive summary

Emerging diseases continue to cause challenges for the public health and veterinary communities. Through the Emerging Pandemic Threats (EPT) Program, USAID funds FAO, OIE and WHO for their collective involvement in the IDENTIFY Project. This project is intended to strengthen laboratory diagnostic capacities through the development of laboratory networks spanning animal and human health sectors in initially 9 countries<sup>1</sup> in the Congo Basin region. FAO, OIE and WHO organized a meeting from 2 to 4 November 2010 in Entebbe, Uganda, to engage regional stakeholders in laboratory capacity building and networking activities. About a hundred participants actively took part in this meeting from both human and animal health sectors. The general objective of the meeting was to obtain country buy-in and ownership for the IDENTIFY project and activities, which was achieved. Presentations on the IDENTIFY Project were followed by six (6) country presentations on their current status of laboratories and priorities for targeted diseases. Further discussions were held through group work which were consolidated during subsequent plenary discussions.

The key achievements of the meeting were:

- The development of preliminary lists of targeted animal and human diseases and conditions (including zoonoses) for the IDENTIFY project. It was proposed that the project implementation team propose harmonized animal and human disease lists.
- The identification of issues affecting laboratory capacity
- The discussion of key strategies and activities needed for strengthening the diagnostic capacities of laboratories
- Commitment to improve collaborations between the human and animal health sectors in the region
- The formulation of recommendations directed to the IDENTIFY Project implementation team and beneficiary governments.

The main recommendations from the meeting were to:

- Develop and/or strengthen a sustainable system of networking laboratories
- Support the establishment of a framework for collaboration between animal and human health laboratories
- Strengthen existing collaboration within and between sectors
- Assess and identify gaps in laboratory capacity
- Support normative laboratory function
- Enhance quality assurance, biosecurity and biosafety levels
- Support laboratories on equipment and equipment maintenance
- Provide opportunities for training within and across sectors on cross-cutting themes
- Raise awareness of stakeholders on the importance of laboratories
- Implement or reinforce the laboratory component of Rapid Response Teams
- Strengthen wildlife laboratories

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<sup>1</sup> Uganda, Democratic Republic of Congo, Cameroon, Republic of Congo, Tanzania, Gabon, Equatorial Guinea, Rwanda, Central African Republic.

## I. Introduction

Emerging diseases continue to cause challenges for the public health and veterinary communities, and along with endemic zoonotic diseases pose an ongoing threat to both animals and humans.

The Emerging Pandemic Threats (EPT) Program funded by USAID seeks to aggressively pre-empt or combat diseases that could spark future pandemics. This program will contribute to the implementation of International Health Regulations (IHR 2005) following the resolution by the World Health Assembly and to improved reporting to OIE on listed animal diseases and unusual epidemiological events or emerging diseases. In the African Region, the program will focus on the Congo Basin of East and Central Africa considered a "hot spot" for emerging diseases.

Through EPT, USAID funds a group composed of FAO (Food and Agriculture Organization of the United Nations), OIE (World Organisation for Animal Health), and WHO (World Health Organization) for their collective involvement in the IDENTIFY Project. This project is intended to strengthen diagnostic capacities through the development of laboratory networks spanning animal and human sectors.

Within this framework, FAO, OIE and WHO jointly organized a meeting from 2 to 4 November 2010 in Entebbe Uganda. The purpose of the meeting was to engage regional stakeholders in laboratory capacity building and networking activities, not only within the individual animal or human health sectors, but also across them, to better prepare the region to respond to disease outbreaks. The participants of the meeting were from 14 countries<sup>2</sup>: Angola, Burundi, Cameroon, Central African Republic (CAR), Democratic Republic of Congo (DRC), Ethiopia, Equatorial Guinea, Gabon, Kenya, Republic of Congo, Sudan, Tanzania, Uganda and Zambia. Other participants were from reference laboratories situated outside of the Congo Basin region from both human and animal health laboratories, other EPT projects, and the regional economic community.

About a hundred participants actively took part in this meeting (see participant list in Annex 2). Among the participants were Directors of Laboratory Services at Ministries of Health, Directors of Public Health, OIE Delegates (Directors of Veterinary Services or Chief Veterinary Officers), Directors of Central or National Veterinary Laboratories and wildlife counterparts.

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<sup>2</sup> Rwanda is also part of the countries selected for the IDENTIFY Project but was not be able to send participants for the meeting.

## II. Opening ceremony and meeting objectives

The opening ceremony of the meeting, placed under the authority of Uganda Ministers of Agriculture and Health, was introduced by Dr. Miriam Nanyunja, Disease Prevention and Control Officer, WHO Uganda. The opening session included four interventions.

**Dr Boubacar M. Seck**, FAO Regional Coordinator, talked on behalf of Mr. Percy Misika, FAO Representative in Uganda. He reminded the audience of the socio economic losses due to diseases of which a significant number of new, emerging and re-emerging diseases are of animal origin. From 2006 to date, 11 African countries had confirmed occurrence of avian influenza. This resulted in a severe negative impact on livestock production including human fatalities in at least two countries. In addition, he mentioned that other diseases such as anthrax, rift valley fever, Marburg, monkey pox, etc. are common in some countries in Africa and continue to pose animal and human health challenges. He encouraged implementation of all possible measures including improved diagnostic laboratory capacity to prevent and/or control such diseases.

**Dr Walter Masiga**, OIE Sub Regional Representative for Eastern Africa and the Horn of Africa, on behalf of the Director General of the OIE, said that the OIE is committed to collaborating and sharing responsibilities with the FAO and WHO to address health risks present at the animal-human interface. In this regard, he indicated that the OIE intends to use its network of Reference Laboratories and Collaborating Centres to share scientific knowledge and skills with other laboratories in the region and provide relevant training to build laboratory capacity. The Twinning program was given as an example of an existing tool. He concluded his remarks by mentioning that the OIE was very much interested in the recommendations of this meeting and was ready to support and reinforce laboratory capacity and networking initiatives within its mandate.

**Dr. Solomon Fisseha** on behalf of Dr Joaquim Saweka, WHO Representative in Uganda and the WHO Regional Director, Dr. Luis Gomes Sambo emphasized the promotion of multi-sectoral cooperation and strong partnerships with linkages between human and animal health systems as the emergence of diseases is complex and multi-factoral. He noted that WHO, FAO and OIE are already working together through a number of established detection and response frameworks. In addition, he indicated that WHO is a partner to an international, multidisciplinary and inter-sectoral framework One World, One Health. He ended by mentioning that WHO pledges to work closely with FAO and OIE, the ministries of health and other relevant ministries and stakeholders of Member countries to achieve the common goal of prevention, control and containment of emerging and re-emerging diseases.

The FAO, OIE and WHO Representatives welcomed participants to the tripartite meeting on the IDENTIFY Project and thanked the Ugandan Government for accepting to host this important meeting and also USAID for funding the IDENTIFY Project.

**Dr. Winyi Kaboyo**, Representative from the Ministry of Health Uganda, officially opened the conference on behalf of the Ministry of Health and the Government of Uganda. He welcomed participants to Uganda and thanked FAO, OIE, USAID and WHO for the IDENTIFY Project. He indicated that the laboratory diagnostic and research capacity in the region is still not fully developed and suffers from inadequate resources. He said that many times, countries refer specimens beyond the region to obtain the final confirmation

of the causative pathogen and on many occasions the results are obtained late with negative consequences. This state of affairs needs to change if countries are to mitigate the devastating effects of emerging diseases. He mentioned that the networks across the human and animal health sectors should help for timely identification of emerging diseases in both human and animal populations taking advantage of the long established experiences of FAO, OIE, WHO, CDC and others. He clearly indicated that the successful implementation of the IDENTIFY Project will depend on proper identification of key challenges that pertain to countries, logically analyzing the available alternative solutions and implementing the identified cost-effective interventions with commitment from both the beneficiary countries and implementing partners.

Following the group photo, the meeting started after the election of the Chairpersons and rapporteurs for the three days of the meeting:

- **Chair persons:**

Day 1: Dr. Immaculate Nabukenya (Uganda), Dr. Louis Namboua (CAR)

Day 2: Dr. Peter Z. Njau (Tanzania), Dr. Leopold Mulumba (DRC)

Day 3: Dr. Enkoro Sylvain Patrick (Gabon), Dr. Nicholas Kauta (Uganda)

- **Rapporteurs:**

Day 1 am: Kenya, Day 1 pm: Burundi

Day 2 am: Zambia, Day 2 pm: Congo (Brazzaville)

Day 3 am: Cameroon, Day 3 pm: Ethiopia

- **Coordinators of rapporteurs:**

Day 1 am: Dr Virginie Dolmazon (WHO), Day 1 pm: Dr Ali Yahaya (WHO)

Day 2 am: Dr Neo Mapitse (OIE), Day 2 pm: Ms Jennifer Lasley (OIE)

Day 3 am: Dr Béatrice Mouillé (FAO), Day 3 pm: Dr Mokganedi Mokopasetso (FAO)

**Adoption of the Agenda:**

The agenda was adopted following addition of two new presentations:

- The Role AU-IBAR in the Control of Emerging Pandemics in Africa
- Sudan Veterinary Laboratory Capacities: Country Report

**Objectives, Expected Results and Method of Work:**

After the adoption of the agenda, **Dr Francis Kasolo**, Program Manager, IDS Program, WHO/AFRO introduced the objectives and expected results of the meeting.

The general objective of the meeting was to obtain country buy-in and ownership for the IDENTIFY project and activities.

The five specific objectives of the meeting were:

- To share IDENTIFY Project key objectives and beneficiary countries' perspectives;
- To discuss the preliminary list of priority diseases and conditions across and within the animal and human health sectors;
- To review current status, challenges and priorities of the animal and human health laboratory sectors;
- To discuss key strategies and activities needed for strengthening the diagnostic capacities and
- To identify challenges and opportunities for collaboration between public health, food and veterinary laboratories.

### **III. Proceedings**

During the three days, several presentations, group work sessions and plenary discussions were held in line with the objectives and expected outcomes of the meeting. The topics and exchange of information during the plenary sessions offered an opportunity for participants including the organizers to agree on the key strategies and activities for strengthening diagnostic capacities and to identify thematic areas for strengthening collaboration between public health, food and veterinary laboratories. The following 5 sessions summarised the contents of presentations, group works and discussions generated during the three days of the meeting (see the detailed agenda in Annex 1).

## ***Session 1: Share IDENTIFY Project key objectives and beneficiary countries' perspectives***

### **Introduction to EPT programme and its projects, Dr Yoti Zabulon (WHO)**

The presenter began by introducing the Emerging Pandemic Threats (EPT) program. He said that newly emerging diseases are increasingly becoming a significant public health threat with high potential of negative impact on global health security. Emerging diseases affecting humans are caused mostly by pathogens originating from animals (either wildlife or domestic animals). Considering these new threats, USAID launched the 5-year EPT Program to be implemented in selected “geographic hot spots” in Africa, South America and Asia. The EPT program aims to contribute to better understanding and response to these threats. The Program was initially structured into 6 different projects namely IDENTIFY, PREDICT, PREPARE, PREVENT, RESPOND and DELIVER<sup>3</sup>. Each of these projects focuses on specific areas of the EPT program and it is crucial to collaborate and coordinate between the projects that will work to implement the EPT program in the Congo Basin Region.

To help foster collaboration between the projects, the EPT program was also divided into five major lines of work across the projects which were:

- identification of target pathogens in wild life that threaten humans
- characterization of the potential risk and method of transmission for specific diseases of animal origin
- integration of a multi-sector approach to public health objectives
- support for sustainable, country response
- promotion of actions that minimize or eliminate the potential for the emergence and spread of new disease threats<sup>4</sup>

Finally, the presenter reminded participants that the EPT program provides an opportunity to strengthen a multi-sector approach to public health objectives – the spirit of ‘One Health’.

### **Overview of IDENTIFY Project, Dr Boubacar M. Seck (FAO)**

The IDENTIFY Project is a component of USAID-funded EPT programme. It focuses on the capacity of laboratories in the human and animal health sectors in order to contribute to the management of normative and emerging zoonotic pathogens. Specifically, the project builds capacity for rapid and accurate detection of known pathogens and for appropriate handling of material from clinical cases, where a novel pathogen is suspected.

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<sup>3</sup> USAID subsequently restructured the EPT Program to consist of four projects: IDENTIFY, PREDICT, RESPOND and PREVENT.

<sup>4</sup> Along with restructuring the projects, USAID also modified the lines of work. There are currently four lines of work

1. Wildlife pathogen detection
2. Risk determination
3. Outbreak investigation
4. Risk reduction

Most of the activities under IDENTIFY fit into line of work 3

The IDENTIFY overall objective is to link together a global cooperative network that is fully capable of rapidly diagnosing and reporting to OIE on listed animal diseases, and unusual epidemiological events or emerging diseases, and investigating events of potential international public health concern and reporting to WHO as required by the International Health Regulations (IHR).

The IDENTIFY Specific 5-year Objectives are as follows:

- Assess existing human and animal health laboratory infrastructure and current laboratory-based surveillance plans to determine country/hot spot region needs
- Implement a joint human and animal health laboratory programme for emerging pathogens including priority diseases and syndromes, laboratory capacity, networks and data management systems
- Develop capacity for advocacy for government funding to sustain effective joint human and animal health laboratory-based disease surveillance.

#### **Specific Activities of WHO for IDENTIFY Project, Dr Ali Ahmed Yahaya (WHO)**

Against a background of adoption of resolutions on strengthening Public Health Laboratories (2008), establishment of Centers of Excellence (2009) and creation of IDENTIFY Project (2010); current status of Public Health Laboratory capacities in Congo Basin; overall and specific objectives of the IDENTIFY project; the presenter defined the priority activities for the years 2010-2011 as follows:

- Joint FAO/OIE/WHO laboratory mapping exercise in the Congo basin
- Strengthening Laboratory Quality Systems
- Development of the guidelines and tools for laboratory performance
- Build laboratory capacity (training, laboratory twinning initiative, research, etc) for the detection of IDENTIFY Project priority diseases
- Strengthening laboratory data management and reporting in human and animal health including networking of laboratories

#### **Specific Activities of FAO for IDENTIFY Project, Dr Boubacar M. Seck (FAO)**

Against the background and strategy of use of existing platforms, capitalizing on influenza efforts, support of Joint FAO/IAEA Division, overall and specific objectives of IDENTIFY Project, the strengthening of laboratory networking and the implementation of key activities are summarized as follows:

- Facilitate Laboratory network coordination meetings
- Development of an FAO laboratory assessment tool/Laboratory mapping
- Support implementation of Quality Assurance system
- Harmonization of diagnostic tests protocols and results
- Strengthen linkage between field epidemiological data and laboratory results
- Provide capacity building support to laboratories
- Joint training activities supported by FAO, OIE and WHO
- Collaboration with international reference laboratories
- Investigation of private-public laboratory partnerships
- Linking contents of disease event databases with various other data sources

#### **Specific Activities of OIE for IDENTIFY Project, Dr Neo Mapitse (OIE)**

Against the background of the overall and specific objectives of IDENTIFY Project and the existing capacity for identification of known animal diseases, OIE's approach includes:

- Assessing the most common animal diseases in the region through the use of the World Animal Health Information Database (WAHID) reports;

- A desktop review of existing information on laboratories in or serving the Congo Basin region (OIE Reference Laboratories and Collaborating Centres annual reports, information available on parent and candidate twinning laboratories);
- Enhancing laboratory capacity and networking for normative and unknown, emerging pathogens
- Enhancing accurate diagnosis and timely reporting of OIE listed diseases;
- Working with experts to:
  - Develop procedures and guidelines for the detection and diagnosis of unknown pathogens;
  - Develop procedures to refer specimens;
  - Host technical consultations focusing on guidance to improve the detection and diagnosis of emerging diseases;
  - Strengthen linkages between wildlife and agriculture counterparts, and epidemiology networks and laboratory counterparts.

### **Discussion: Key issues raised following the presentations**

- The 3 organizations have already worked together during previous outbreaks (e.g H5N1). Therefore, regarding reporting by the countries, the strengthening of laboratory data management and communication between public health and animal sectors is encouraged.
- It is crucial to build capacity for accurate identification of known diseases. The identification of unknown diseases/conditions/events can be referred to regional or international reference laboratories. It is important to promote the collaboration between sectors and countries in the region and to develop regional capacity for confirmation of unknown diseases.
- The selected countries have existing capacity at different stages. WHO, OIE and FAO will support laboratory capacity building in line with goals of the IDENTIFY Project. The perspective is to strengthen institutions and individual countries and support the sustainability of the achievements at country level.
- The role of wildlife in disease spread is very clear. However there is a problem in diagnosis of wildlife diseases. Few laboratories in the Region, such as the Onderstepoort Veterinary Institute, South Africa, have shown such competence. There are concerns regarding dedication to test wildlife samples, validation of tests that normally apply to livestock samples, lack of expertise and the fear of handling wildlife samples because of potential risk. It should be noted that wildlife samples are precious due to difficulty in obtaining them.
- The purpose of the procurement is to contribute to the detection of potentially epidemic diseases. FAO is already in the process of identifying and delivering some materials.

### **The role AU-IBAR in the control of Emerging Pandemics in Africa, Dr. William Olaho-Mukani (AU-IBAR, Kenya)**

In line with the AU-IBAR Mandate, its strategic plan 2010-2014 and its role, the following ways forward were proposed:

- Strengthening the collaboration between animal and human health sectors is key to the control of TADs & zoonoses on the African Continent;
- Networks have been identified as important avenues for achieving disease control;
- Issues of Legal status should be considered;
- Governance and local ownership are important;

- Priority diseases should be defined within the regional, economic and public health context;
- AU-IBAR's implication will be crucial.

## **Countries' Presentations**

In order to harmonize the presentations, a template was provided in advance to the countries. The content of the presentations including subsequent plenary discussions contributed to the outputs of group work sessions.

### **Uganda Veterinary Laboratory**

The list of diseases that are under surveillance and the laboratory has specified diagnostic capacity at national level are Foot and Mouth disease (FMD), Contagious bovine pleuropneumonia (CBPP), Influenzas (H1N5, H1N1), African swine disease (ASF), Peste des petits ruminants (PPR), rinderpest and rabies. The strength of the laboratory is the well established epidemio-surveillance network that has many collaborators including private sector and academia. Proficiency testing with Pirbright was reported to be underway.

The weaknesses were identified as very low staffing levels, inadequate bio-security and bio-safety measures including sample management, and insufficient funding. The proposed ways forward were the improvement of staffing levels, the training of staff in appropriate skills, establishment of BSL3 laboratory, the improvement of biosecurity and biosafety, , and the improvement of networking at national and international levels.

### **Cameroon Veterinary Laboratory**

The diseases that are confirmed at the national level are: Peste des petits ruminants (PPR), African swine disease (ASF), Newcastle disease (NCD) and Contagious bovine pleuropneumonia (CBPP). The departments for bacteriology, virology, parasitology and biochemistry are functional. For infectious diseases, isolation diagnostic, serology, molecular biology (PCR) are among the technologies available and quality control service is performed. Some challenges remain such as effectiveness of the quality assurance system, identifying the sanitary status of country's livestock, promoting complement diagnostic capacities, and strengthening biosafety for zoonotic viruses. Their goals include accreditation for some diagnostic methods such as avian influenza or PPR and to strengthen biosafety for zoonoses diagnostics.

### **Democratic Republic of Congo Veterinary Laboratory**

Monkey pox (MPX), Rift Valley fever (RVF) in ruminants, African swine fever (ASF), Newcastle disease (NCD), Avian influenza (AI), lumpy skin disease (LSD), Peste des petits ruminants (PPR), rabies and brucellosis are all confirmed at national level through techniques such as ELISA, PCR, etc.

The challenges were identified as follows: lack of reagents and consumables; laboratory investigations into the field; and lack of advanced and specific education trainings for technical staff. It was proposed to better analyze primary epidemiological information from laboratory investigations and to implement genotyping of identified pathogen disease strains.

### **Tanzania Veterinary Laboratory**

The National Laboratory has capacity for confirmation of the following priority diseases: Avian influenza (AI), Foot and mouth disease (FMD), Contagious bovine pleuropneumonia (CBPP), Rift Valley fever (RVF), Peste des petits ruminants (PPR), Newcastle disease (NCD), African swine fever (ASF), rabies, brucellosis and bovine tuberculosis (BTB). The Government supports the laboratory. The laboratory has qualified staff and adequate infrastructure and there is room for expansion. However, some challenges were mentioned, such as lack of specialized trained manpower in quality assurance and laboratory equipment and instrument maintenance. Though the laboratory has implemented a quality management system and has recruited a quality manager, implementation of ISO/IEC 17025:2005 standards for accreditation were still at infancy stage. Insufficient funds for surveillance activities and procurement of laboratory equipment and reagents were other challenges identified. The laboratory requested more funds including support for training and implementation of joint surveillance activities through the "One Health" concept.

### **Sudan Veterinary Laboratory**

The Central Veterinary Research Laboratory has 21 Units and Departments namely virology, pathology, bacteriology, parasitology, mycology, biochemistry, tsetse trypanosomosis, TBD, poultry diseases, mycoplasma, molecular biology, and radio isotopes Departments, FMD Unit, RVF Unit, rabies Unit, radioisotopes units and molecular biology unit.

### **Uganda Public Health Laboratory**

In the last five years, the laboratory was involved in the management of outbreaks such as plague, anthrax, H5N1 virus (Avian flu), pandemic H1N1/09 virus, viral hemorrhagic fevers (Ebola, Marburg, Yellow fever), other viral diseases (hepatitis B), cholera, meningococcal meningitis, enteric fever, botulism and dysentery (*Shigella dysenteriae*), etc. The laboratory has competent and committed staff. Many department/programs appreciated the role of Public Health Laboratories in disease surveillance and outbreak investigation. Support is received from health development partners such as AFENET, WHO and CDC.

The presenter highlighted the capacity available by levels as follows:

- Health centre laboratories (periphery): Proper collection, storage and referral of specimens, and basic microscopy for bacterial/parasitic agents
- District general hospital laboratories (periphery): A few (faith-based) laboratories perform basic bacterial culture and drug susceptibility testing
- Regional referral hospital laboratories (intermediate): Basic bacterial cultures and drug susceptibility testing
- National Reference Laboratories: Bacterial culture, antibiotic susceptibility testing and confirmation by molecular biology techniques

The laboratory described some challenges such as inadequate human resources, lack of highly specialized equipment and reagents required for diagnosis, inadequate funds to support staff training in laboratory diagnosis of emerging infectious diseases, and sub-standard infrastructure at various levels of laboratories in the network. There is a strong political will to strengthen laboratory services in the country, and a national laboratory policy and a draft strategic plan has been developed.

## **Discussions**

- Collaboration and communication between animal and human sectors exists in some countries, but there is a need for strengthening it through a coordination mechanism and using opportunities presented by some diseases affecting both human and animal sectors (e.g. rabies)..
- Based on country presentations, the EPT program was requested to clarify the support to be provided to the countries. It was proposed at this stage that each country should present a plan of action that can be used for identifying the support needed. The laboratory capacity information will also highlight needs. The involvement of the government is essential to this project.
- Strengthening existing laboratory capacities to be able to detect and identify unknown diseases is crucial. The transport of highly pathogenic disease specimens from lower level to reference laboratories is among the key steps to be implemented. Support for laboratory quality assurance systems should be among the first activities.

## ***Session 2: Discussion on the preliminary list of priority diseases and conditions across and within the animal and human health sectors***

### **Presentation of IDSR priority diseases/conditions, Dr Peter Gaturuku (WHO)**

Two events influenced the priority diseases and conditions in the African Region. The first one is the adoption by Member States of the Integrated Disease Surveillance (IDS) strategy in 1998. The second one is the revised International Health Regulation (IHR 2005) entered into force in June 2007. In view of this, the revised Integrated Disease Surveillance and Response (IDSR) now incorporates IHR and non communicable diseases. The generic list of the diseases is currently 43 and is categorized as follows: Epidemic-Prone Diseases and conditions, Diseases Targeted for Eradication and Elimination and Other Diseases, events or conditions of Public Health Importance. The presentation offered the opportunity to highlight the zoonotic diseases under IDSR.

### **Presentation of FAO and OIE Animal priority diseases/conditions, Dr Boubacar M. Seck (FAO)**

The presentation provided a background as to why disease prioritization was important in the context of achieving the objectives of IDENTIFY. Defining a list of targeted diseases for the IDENTIFY project is important to focus capacity building activities such as training, to target diseases for proficiency tests, development of laboratory standards including controls and to support technology transfer of appropriate tests.

Two key points summarize the presentation:

- Regional lists of priority animal diseases in Central/Eastern and Western Africa have been developed from three FAO regional meetings with different animal health stakeholders. The methodologies for developing the lists were outlined. Two additional perspectives were added to further develop the list from individual opinions proposed by laboratories' experts through regional laboratory network data and the one by wildlife experts through regional wildlife training data.

- The lists may be customised to IDENTIFY's goals using some proposed filtering criteria being:

- Exclusion of diseases with only economical impact without public health impact evidence
- Exclusion of disease already (or almost) eradicated
- Priority to diseases for which laboratory testing needs to be established/improved in the African region (i.e. support needed to improve testing capacities)
- Exclusion of diseases for which no surveillance activities are currently undertaken (i.e. no samples submitted to laboratories)

After the two presentations, the first Group Work on the preliminary lists of priority (or targeted) diseases and conditions across and within the animal and human health sectors was organized.

The work group's compositions for session 2 on priority diseases was as follows:

- Group A: Animal Health representatives, English-speaking, Facilitators: Dr Neo Maitse, Dr Joseph Litamoi
- Group B: Animal Health representatives, French-speaking, Facilitators: Dr Boubacar Seck, Dr Youssouf Kaboré
- Group C: Human Health representatives, English-speaking, Facilitators: Dr Thomas Aisu, Dr Yoti Zabulon

- Group D: Human Health representatives, French-speaking, Facilitators: Dr Ali Yahaya, Dr Mamadou Lamine Koné

Additional resource persons were also listed as follows for each institution:

- OIE: Jennifer Lasley, Walter Masiga
- FAO: Béatrice Mouillé, Mokganeedi Mokopasetso
- WHO: Chris Oxenford, Peter Gaturuku, Virginie Dolmazon, Francis Kasolo, Berthe Adama

### **Harmonized List of Priority Diseases for Animal Health<sup>5</sup>**

In an effort to better focus the resources and to consolidate the positive impact of the IDENTIFY project, the following list is the principal list of animal diseases to be targeted, as determined by harmonization of two lists developed through group work during the stakeholders meeting. Each group thought critically about the most important criteria to consider when including or excluding a particular disease from the list.

African Swine Fever

Anthrax

Brucellosis

Contagious Bovine Pleuropneumonia

Foot and Mouth Disease

Influenza

Monkey pox

Peste des Petits Ruminants

Rabies

Rift Valley Fever

Salmonellosis

Trypanosomosis

Tuberculosis

Viral hemorrhagic fevers

The following is a list of diseases considered important by one of the groups, but not by both. In an effort to include these diseases as much as possible, the IDENTIFY project will develop and target capacity building activities to these diseases where possible through cross-cutting activities.

African Horse Sickness

CCPP

Cysticercoses

Emerging diseases

Leptospirosis

Newcastle Disease

Spongiform encephalopathies

Toxoplasmosis

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<sup>5</sup> This harmonized list was developed by FAO and OIE after the meeting according to the suggestions made by participants during the plenary discussion.

## **Discussions :**

- Leptospirosis was included in the list as it requires some specialized equipment to diagnose and is therefore rarely diagnosed as equipment is absent.
- Tick-Borne Diseases (TBD) should be included to allow different TBD to be addressed by each country as it sees fit. However another point of view is that, since TBD are manageable at national level through use of acaricides, they can be excluded.
- One observation was that the proposed lists were similar but categorized into different groups e.g. zoonoses, economic impact, regional characteristics, emerging, etc. One group categorized into “capacity of laboratories to detect diseases”. A proposal was made to adopt the Group A’s list, as it includes more diseases.
- Country/geographical characteristics influences disease prevalence.
- The eradicated diseases should not be removed from the list as it is at that stage that surveillance is most required to ensure eradication. However it should be noted that the filter proposed to exclude eradicated diseases, and that eradicated diseases often are subjected to a thorough surveillance anyway. Rinderpest was given as an example.
- Mastitis was also discussed from the perspective of resistant bacteria. However it was not included in the lists.
- A question on refocusing the disease lists on the donor’s objectives was discussed. However the size of the list was considered as not a big area of concern since capacity building will focus on the needs assessment more than disease lists.
- The FAO/OIE implementation team should harmonize the two animal disease lists.

## **Priority diseases for human Health**

Based on the List of IDSR priority diseases, conditions and events presented during the plenary session, both groups included the following diseases in their list :

Anthrax, influenza and other respiratory viruses, Viral Haemorrhagic fever (Crimea Congo haemorrhagic fever, Ebola, Marburg, West Nile, Rift valley fever ..), Plague, Salmonellosis – typhoid, Shigellosis , Trypanosomiasis, Tuberculosis and Yellow fever

The list of diseases considered important by one of the groups, but not the other is as follows:

Brucellosis, Cholera, Dengue, Hepatitis E, Leptospirosis, Malaria, Meningococcal meningitis , Monkey pox, Rabies Rickettsiosis, Toxigenic E.coli and Toxoplasmosis,

## **Discussion**

- Private sector laboratories are increasingly doing a lot of work which results in public laboratories with less work and therefore losing capacity. Issues of quality assurance in the private laboratories come into question when throughput increases. Recommendation for these laboratories, especially in the human health sector, is to use WHO standards.
- Rickettsiosis (TBD) should be considered as a candidate for twinning because of its public health significance. It may be the biggest cause of unexplained and

- recurrent fevers in humans, especially tourists in the region. The disease is not well diagnosed at country level but can be used as a basis for developing networks between animal and human health laboratories.
- Some diseases are never diagnosed early due to inadequacies or poor documentation.
  - Veterinary laboratories may assist public health laboratories in specified areas such as preparation of cholera media for culture. This can be a good starting point for collaboration and networking.
  - Some countries experience difficulties in diagnosing certain agents such as coxsackie viruses and adenoviruses.
  - Two diseases lists (animal and human) will be finalised but diseases both within and across the two sectors will be considered for capacity building and collaborations. The project is not entirely about zoonoses.
  - The WHO implementation team should harmonize the two human disease lists.

In view of this, based on the discussion, the harmonized List of Priority Diseases for human Health is as follows<sup>6</sup>:

Anthrax

Bacterial enteric diseases (cholera, shigellosis, salmonellosis, toxigenic E.coli)

Bacterial meningitis (streptococcus pneumoniae, neisseria meningitis, haemophilus influenzae)

Brucellosis

Dengue

Hepatitis

Influenza viruses and other viral respiratory diseases

Leptospirosis

Malaria

Monkey pox

Plague

Rabies

Rickettsiosis

Toxoplasmosis

Trypanosomiasis

Tuberculosis

Viral haemorrhagic Fevers (Crimean Congo haemorrhagic fever, Ebola, Marburg, Rift Valley Fever, West Nile)

Yellow fever

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<sup>6</sup> This harmonized list was developed by WHO after the meeting according to the suggestions made by participants during the plenary discussion.

It was highlighted that cross-cutting activities that can bring the two sectors together are encouraged. In view of this, the table bellow shows the common harmonized List of Priority Diseases between human and animal diseases:

| Harmonized List of Priority Diseases only for <b>human Health</b> but not by both sectors   | common harmonized List of Priority Diseases <b>between human and animal</b> diseases   | Harmonized List of Priority Diseases only for <b>animal Health</b> but not by both sectors   |
|---|--|--|
| Bacterial meningitis<br>Dengue<br>Hepatitis<br>other viral respiratory diseases<br>Malaria<br>Plague<br>Rickettsiosis<br>Yellow fever | Anthrax<br>Bacterial enteric diseases<br>Brucellosis<br>Influenza viruses<br>Leptospirosis*<br>Monkey pox<br>Rabies<br>Toxoplasmosis*<br>Trypanosomosis<br>Tuberculosis<br>Viral haemorrhagic Fevers | African Horse Sickness*<br>African Swine Fever<br>Contagious Bovine Pleuropneumonia<br>CCPP*<br>Cysticercoses*<br>Foot and Mouth Disease<br>Newcastle Disease*<br>Peste des Petits Ruminants<br>Spongiform encephalopathies* |

\*Alternate Diseases to be included where possible in IDENTIFY activities.

**Session 3: Review current status, challenges and priorities of the animal and human health laboratory capacity**

For the sessions 3, 4, 5, the work group's compositions are presented below:

Group A: Kenya, Rwanda, Tanzania, Uganda

Facilitators: Neo Mapitse, Thomas Aisu

Group B: Ethiopia, Sudan, Zambia, (Uganda)

Facilitators: Joseph Litamoi, Yoti Zabulon

Group C: Angola, Congo Brazzaville, DRC, Gabon

Facilitators: Boubacar Seck, Mamadou Lamine Koné

Group D: Burundi, Cameroon, CAR, Eq Guinea

Facilitators: Ali Yahaya, Youssouf Kaboré

The introduction to group work proposed brainstorming on issues affecting laboratory capacity and identification of the 5 most important issues. It was proposed to respond to the following three questions:

- Why did the group choose each issue?
- What factors contribute to each issue?
- Which of these factors can be addressed within the IDENTIFY project?

**List of 5 key issues proposed by groups**

| Group A   | Group B   | Group C   | Group D   |
|---|---|---|---|
| <ul style="list-style-type: none"> <li>- Human resource</li> <li>- Quality Assurance</li> <li>- Laboratory Information Management Systems</li> <li>- Laboratory Equipment, Supplies, and Logistics and technologies<sup>7</sup></li> <li>- Laboratory infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>- Human resource</li> <li>- Laboratory infrastructure</li> <li>- Quality Management System including Laboratory Information Management Systems</li> <li>- Networking-Laboratory Equipment, Supplies and Logistics</li> </ul> | <ul style="list-style-type: none"> <li>- Human resource</li> <li>- Laboratory Equipment, Supplies and Logistics</li> <li>- Networking</li> <li>- Laboratory infrastructure</li> </ul> | <ul style="list-style-type: none"> <li>- Human resource</li> <li>- Quality Assurance</li> <li>- Laboratory infrastructure</li> <li>- Networking</li> <li>- Laboratory policy</li> </ul> |

<sup>7</sup> Refers to tests

#### ***Session 4: Discuss key strategies and activities needed for strengthening the diagnostic capacities***

The group work of Session 4 asked participants to consider the following questions:

- What are the possible solutions to address the issues identified by your group?
- What are the key strategies to address the issues identified by your group in session 3?
- What specific activities can be put in place?

The key strategies and types of activities proposed by the groups are summarized as follows:

- Networking of laboratories
- Training
- Laboratory equipment, supplies and reagents
- Maintenance
- Information sharing
- Quality Management Systems
- Assessment, Certification, Accreditation
- Biosafety, biosecurity
- Guidelines/standards development and implementation
- Twinning initiatives

#### ***Discussions:***

- The high staff turnover (“brain drain”) at national laboratories could be partly addressed by reviewing incentives, motivations and addressing long term training to retain staff. Certain laboratories with upper level capacity should be identified and developed to achieve excellence and competences in specified subjects.
- Laboratory infrastructure should address issues of work flow with biosecurity and biosafety taken into consideration.

### ***Session 5: Identify challenges and opportunities for collaboration between public health, food and veterinary laboratories***

The group work of Session 5 aimed to address the issues identified in sessions 3 and 4 and to consider the following questions:

- Which activities can be implemented within each sector (animal/human)?
- Which activities can be implemented jointly across the sectors?
- Propose 3 main recommendations to enhance laboratory capacity within the framework of the IDENTIFY project

The main activities proposed to be implemented jointly across the sectors are:

- Information exchange
- Epidemiological surveillance and response to zoonoses
- Training on biosecurity, quality assurance, diagnostics, maintenance etc
- Procurement of essential equipment, reagents and supplies
- Collaboration framework between the 2 sectors
- Development of standardized guidelines such as quality assurance
- Coordination mechanism

#### ***Discussions:***

- There was a concern from the delegate of Ethiopia regarding the minimum laboratory requirements and BSL level to be supported by IDENTIFY. It was suggested that IDENTIFY establish a minimum level that all laboratories would attain through the support of the project to better diagnose targeted diseases at more advanced levels.
- It was explained to the meeting participants that the objective of the project is to build on existing laboratory capacity. In this regard, IDENTIFY has not set any minimum standards but will assist countries to improve on their existing capacity. Furthermore, efforts will be made to strengthen regional capacity in the diagnosis of the targeted diseases.
- Some participants also requested assurance and how the project will assist countries.
- It was explained that each of the countries under the project will be assisted with capacity building, but those countries that are not benefiting directly from the project will benefit at regional level.
- Some participants requested the way forward, particularly regarding how they should inform their superiors of the project when they return to their countries
- It was explained that the countries will be provided with recommendations coming from the meeting and it is expected that those recommendations will be implemented by the IDENTIFY project and the government in collaboration with relevant stakeholders.

## IV. Recommendations

The presentations, plenary discussions and group work allowed meeting participants to develop recommendations for the future of the IDENTIFY project in the Congo Basin region. The recommendations are directed to the IDENTIFY Project implementation team and partners and the beneficiary governments (specified in parentheses).

The IDENTIFY project implementation team is pleased with the quality and breadth of the recommendations that were developed during the stakeholders meeting. The implementation team is committed to honouring the recommendations below. These recommendations should be read with the understanding that:

- The IDENTIFY funds are limited and their use is restricted to supporting goals and activities on a specific theme, laboratory capacity building and networking. The implementation team has the responsibility of ensuring that project activities and resources are focused and consolidated to increase the overall positive impact of the IDENTIFY project in the targeted countries;
- In addition, the IDENTIFY project and its partners must work within their individual mandates when implementing specific activities with project funds.
- IDENTIFY project is situated within the larger EPT Program, and some of the recommendations resulting from the stakeholders meeting will be addressed by activities under the mandate of other EPT partners such as PREDICT, RESPOND, and/or PREVENT. The IDENTIFY project will work with EPT partners where possible to coordinate actions in order to assure the largest gains without a duplication of effort.

The joint FAO, OIE and WHO IDENTIFY Project stakeholders meeting makes the following recommendations:

### **A) Networking, including across sectors:**

- 1 Develop/Strengthen a sustainable system of networking laboratories from regional to national levels to improve diseases detection, diagnosis and information sharing including diseases reporting (**Government, IDENTIFY project**).
- 2 Support the establishment of a framework for collaboration between animal and human health laboratories at national, regional and international levels (**IDENTIFY project**).
- 3 Strengthen existing collaboration within and between sectors at national and regional levels (**Government, IDENTIFY project**).

## **B) Assessment for laboratory capacities and capacity building**

- 4 Consolidate and update existing assessments and conduct new assessments to identify gaps in laboratory capacity at the national and regional levels for the IDENTIFY targeted diseases (**Government, IDENTIFY project**).
- 5 Support normative laboratory function and eventual technical support to assist laboratories in complying with international standards for laboratories and disease reporting (**Government, IDENTIFY project**).
- 6 Enhance quality assurance, biosecurity and biosafety in countries in line with the goal of the IDENTIFY project (**Government, IDENTIFY project**).

## **B1) Capacity building -Laboratory equipment**

- 7 Support equipping of laboratories, maintenance and calibration of the equipment for the diagnosis of common endemic and priority diseases included in the IDENTIFY targeted disease list (**Government, IDENTIFY project**).

## **B2) Capacity building- Training**

- 8 Providing opportunities for training within and across sectors focused on new technologies, analysis, biosecurity, biosafety maintenance, LIMS and quality assurance in coordination with already existing training opportunities(**Government, IDENTIFY project**).

## **C) Raising awareness**

- 9 Raise awareness of stakeholders (communities, professionals, policy makers, livestock owners /herders) on the importance of and obligations to support national laboratories (**Government, IDENTIFY project and other partners**).

## **D) Early/outbreak response**

- 10 Implement or reinforce laboratory component of the Rapid Response Teams (RRT), including the establishment of collaboration at national and regional levels (**Government, IDENTIFY project and other partners**).

## **E) Wildlife**

- 11 Strengthen wildlife laboratories with validation of wildlife diseases tests for accurate and early diagnosis including provision of sample collection tools (**Government, IDENTIFY project and other partners**).

## V. Closing session

Each representative of the IDENTIFY Project from the three organizations thanked participants for their contribution during the three days of the meeting to propose strategies and key activities for reinforcing laboratory capacities including networking between the two sectors. The importance of the country action plan and the laboratory mapping exercise were highlighted as key next steps for the project.

The three organizations emphasized their commitment to implement jointly the IDENTIFY Project and to, to the utmost of their ability to implement the recommendations of the meeting under the mandate of each partner organisation and in line with the stated objectives of the IDENTIFY project.

In his closing remarks, the Honorable Rwamirama K. Bright, the Minister of State for Agriculture, Animal Industry and Fisheries, stated that the success of this meeting was important to the Ugandan Government as it shows a common understanding and synergies in diseases control. The Government of Uganda appreciates the IDENTIFY project's objectives and is considering including such strategies in national development plans. He indicated that collaboration between the two ministries of health and agriculture in Uganda is deep rooted as exemplified by more than three platforms in which joint efforts are undertaken. These included: National Task Force on Anthrax, Influenza, and the Coordination of Control of Trypanosomiasis. There is consideration for setting up a National Zoonoses Committee. These all represent cost-effective control measures of public health concerns.

He ended with two key points:

- The coming together of FAO, OIE and WHO to discuss disease control strategies at grass root level with beneficiaries reflects well on these institutions.
- Recognizing USAID for financing the project and other development partners for their input into its development.

## **Annex 01: Agenda**

### **Tuesday 02 November 2010**

08:00 – 09:00

- Registration of participants
- Administrative announcements

09: 00 – 10:00

- Opening Ceremony/session
  - Welcome remarks by WHO, FAO and OIE Representatives
  - Opening Speech by Uganda Ministers of Agriculture and Health

#### **Group photo**

#### **Coffee break**

10: 00 – 10:20

- Introduction of participants
- Election of the Chairperson and Rapporteurs
- Adoption of the agenda
- Objectives, expected results and method of work (FAO / OIE / WHO)

|  |
|--|
| <b>Objective 1: To share IDENTIFY Project key objectives and beneficiary countries' perspectives</b> |
|--|

10: 20 – 11:20

Introduction to EPT programme and its projects (**USAID**), **15 mn**

Overview of IDENTIFY Project (**FAO**/ OIE / WHO), **15 mn**

Discussions, **15 mn**

11: 20 – 12:20

Specific Activities of WHO for IDENTIFY Project [WHO], **15 mn**

Specific Activities of FAO for IDENTIFY Project [FAO], **15 mn**

Specific Activities of OIE for IDENTIFY Project [OIE], **15 mn**

Discussions, **15 mn**

**12:20- 13:20: Lunch break**

13: 20 – 15:20

**Countries' Presentations:** Beneficiary countries' perspectives and concerns: Uganda, Cameroon, Democratic Republic of Congo and Tanzania "Vet labs/other laboratories" and Uganda, "Public health laboratories", **20 mn each** (15 mn presentation and 5 mn clarifications)  
General discussions, **20 mn**

**15: 20 – 15:40 Coffee break, 20 mn**

**Objective 2: To discuss on the preliminary list of priority diseases and conditions across and within the animal and human health sectors**

15: 40 – 17:00

Presentation of IDSR priority diseases/conditions [WHO], **15 mn**

Presentation of Animal priority diseases/conditions [FAO & OIE], **15 mn**

**Group Work:** the preliminary list of priority diseases and conditions across and within the animal and human health sectors, **50 mn**

17: 00 – 18:00

Group A, B, C and D: Report back, **10 mn each**

Discussions, **20 mn**

## **Wednesday 03 November 2010**

09:00–09:20: Recap of Day 1

**Objective 3: To review current status, challenges and priorities of the animal and human health laboratory capacity**

09:20–11:10

### **Introduction to group work, 10 mn**

**Group Work** on the review of lab capacity (human and animal) in the Congo basin: (Challenges and possible solutions)

11:10–11:30: **Coffee break, 20 mn**

11:30–12:30

Groups Report back, **10 mn each**

Discussions, **20 mn**

**12:30- 13:30: Lunch break**

**Objective 4: To discuss key strategies and activities needed for strengthening the diagnostic capacities**

13:30–15:00

### **Introduction to group work, 10 mn**

**Group work** on human and animal health laboratory capacity building: key strategies and activities needed for strengthening the diagnostic capacities and networking for the detection of the selected priority diseases

**15: 00 – 15:30 Coffee break, 30 mn**

15: 30 – 16:30

Groups report back, **10 mn each**

Discussions, **20 mn**

16: 30 – 17:00

Proposed global IDENTIFY approach to Laboratory capacity building.

## **Thursday 04 November 2010**

09:00–09:30: Recap of Day 2

**Objective 5: To identify challenges and opportunities for collaboration between public health, food and veterinary laboratories**

09:30–10:30

### **Introduction to group work, 10 mn**

**Group Work:** “Improving the collaboration between the animal and human health sectors for building regional and national capacities for early detection, laboratory-based disease diagnosis, and appropriate and timely disease reporting

### **10: 30 – 11:00 Coffee break, 30 mn**

11: 00 – 12:00

Groups report back, **10 mn each**

Discussions, **20 mn**

### **12:00- 13:00: Lunch break**

13: 00 – 14:00

Preparation of the synthesis report and the recommendations (Rapporteurs)

14: 00 – 15:00

Presentation and adoption of the synthesis report and the recommendations in plenary session (Rapporteurs)

### **Coffee break**

15: 00 – 15:30

### **Closing session:**

Remarks of an IDENTIFY Project Representative (FAO/ OIE / WHO)

Closing by representatives from the Ministry of Health and Ministry of Agriculture of Uganda

## Annex 2: List of participants

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