

# UGANDA COUNTRY REPORT: IMPLEMENTATION OF STANDARDS- Application of the 12-point Surveillance Checklist (*Bondad-Reantaso et al., 2021*)

*Presented by;*

*Bwanika Joseph – Ag Commissioner for Aquaculture (National Focal Point AAH)*

*Kigali-Rwanda, October 2023*



# COUNTRY PROFILE

- Situated in East Africa, alongside Kenya (East), Tanzania (South), DR Congo (West), South Sudan (North), Rwanda (S-West)
- Total area is 241,000 km<sup>2</sup>, of which about 20% is freshwater (wetlands, rivers and lakes)
  - 5 major lakes and more than 150 minor lakes
  - River Nile flows from Lake Victoria in Uganda
- Population is 45 million people (est).

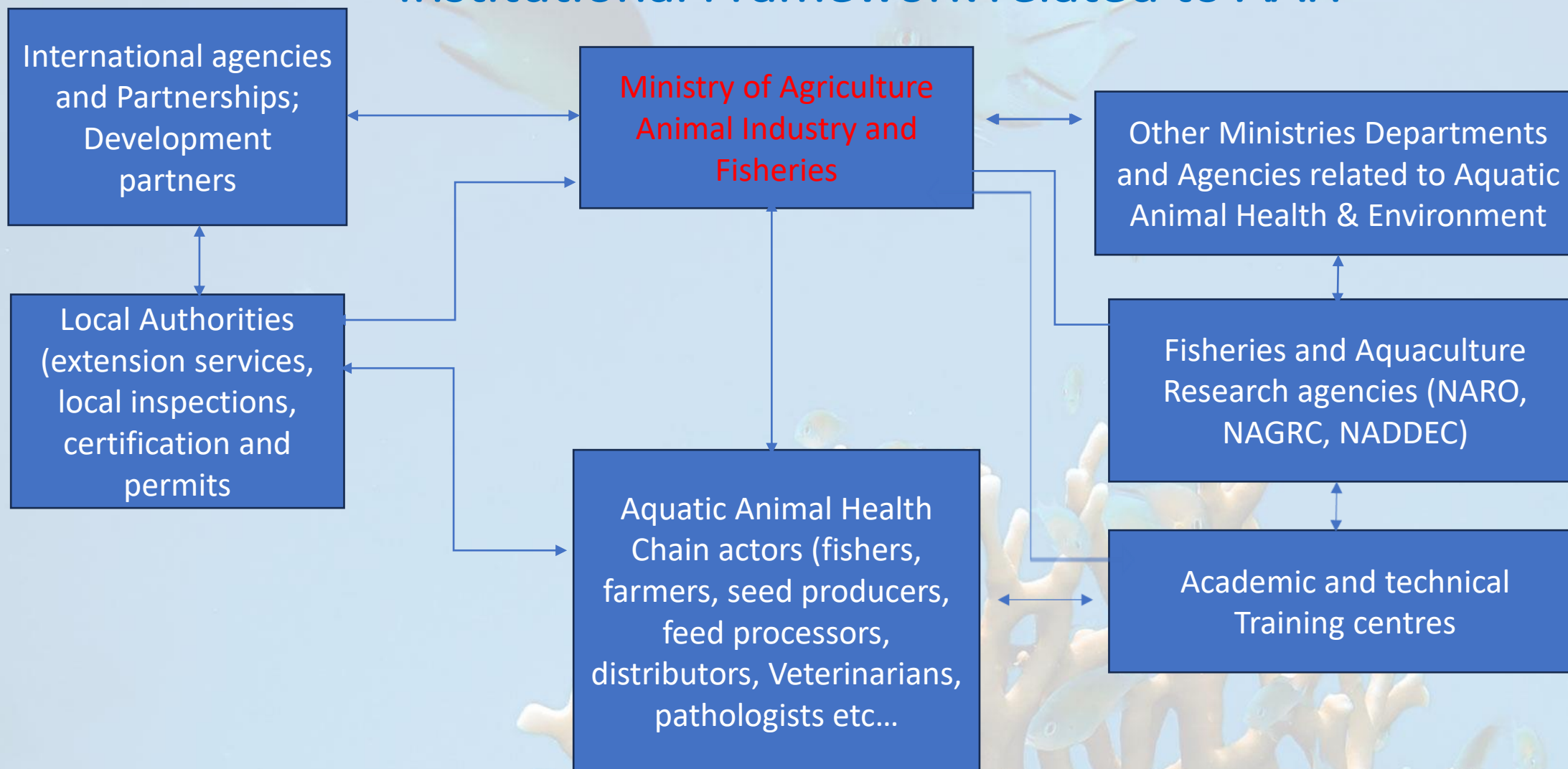








# Institutional Framework related to AAH



## Step 1: Uganda's Scenario Setting:

- Fisheries and Aquaculture account for 3% of national GDP and 12% of agriculture GDP
- Capture fisheries dominates Uganda's fish supplies, standing at about 600,000 (2021).
- Over the last twenty years, Uganda's aquaculture sector has transformed from subsistence activity to a market-oriented sub-sector that supplies fish to domestic and regional export markets (Est 100,000 MT, 2021).
- Most aquaculture production done in cages and pond systems (natural water systems).
- Thus a lot of implications on wider AAH.

## Scenario setting cont'd

- The Sanitary and Phytosanitary (SPS) controls system in Uganda is organized into the three reference functions of **animal health**, **food safety**, and **plant health** as required under the WTO SPS Agreement (LOL, 2020).
- There are various legal frameworks that supports SPS measures applicable to the fisheries and aquaculture value chain such as: NFAP 2018, The Fisheries and Aquaculture Act 2023, Aquaculture Rules 2022, Food and Nutrition Policy of 2003, Animal Feeds Policy of 2005, National Trade Policy of 2008, National Industrial Policy 2008, National Health Policy of 2009, National Drug Policy and Act 1993 etc.
- The Commissioner of Animal Health (CAH) in MAAIF, who is also the Chief Veterinary Officer and WOAHA delegate, oversees overall animal health control.
- The Commissioner for Aquaculture is the National Focal Point for Aquatic Animal Health.
- The Uganda National Bureau of Standards sets standards for food and feeds.



# Scenario Setting cont'd

- The Chief Fisheries Officer who is also the technical head of Directorate of Fisheries Resources, is responsible for Fisheries resources management and certification.
- The Ministry of Water and Environment (MWE) is the line ministry in charge of water resource management and utilization.
- The NEMA is the statutory agency for environmental monitoring, control and certification, including aquatic resources.
- The National Drug Authority under MoH regulates the use of drugs/therapeutics
  - However a new body The Food, Animal and Plant Health Authority (FAPHA) has been proposed under MAAIF

## Step 2: Uganda's Surveillance Objective

- Meant to establish/confirm status for management and notification if necessary.
- In the case of Uganda the relevant OIE notifiable pathogens/diseases currently include;
  - Epizootic Ulcerative Syndrome (EUS)
  - Kol Herpes Virus (KPS)
  - Infectious Spleen and Kidney Necrosis Virus (ISKNV)
  - Tilapia Lake Virus (TiLV)
  - Infectious Hematopoietic Virus (IHV)
  - Viral Hemorrhagic Septicaemia (VHS)
  - Spring Viraemia of Carp Virus (SVCV)
- Notification is meant to be done once the disease/pathogen is confirmed.
- No notification has been made of late (TiLV was highlighted but has not been positively confirmed (*Mugimba et al 2018*)).



## Step 3: Defining the Population

- 20% of Uganda's surface is composed of water (lakes/rivers/wetlands).
- Fish under different forms, categorizations and circumstances in these zones qualify for surveillance (e.g. juveniles, adults, farmed, wild fish, indigenous, exotic species, presence of reservoirs, production systems, vectors, etc.).
- The exact sample size should depend on level of threat envisaged.

## Step 4: Clustering Disease

- OIE notifiable diseases are meant to be clustered by region, country or zones where they occur within the country.
- The likely clustering scenario of Uganda would more appropriately be based on;
  - Production system (cages/ponds)
  - Intensity of production (cages vs ponds)
  - Agro-ecological zones (9 zones)
  - Water management zones (wetlands/rivers/lakes)
  - Trans-boundary water systems (eg shared lakes and rivers systems)



## Step 5: Case Definition

- The exact threat level of various diseases in Uganda is generally unknown, although the risk is rising;
  - Aquaculture intensification increases
  - Water quality degradation worsens.
- Level of awareness about fish diseases is low among farmers and fishworkers and many potential suspected cases might go un-noticed or un-reported
- However the level of disease intelligence is now going up as farms become more oriented to sustainable commercial operations (ie. employing skilled scientists and technicians).

## Step 6: Diagnostic testing

- Farm level testing is largely sensory esp. visual observations of fish samples (fish behavior and morphological appearance).
- There are a number of veterinary laboratories to diagnose, monitor and control general diseases at the district (local authority), regional and national levels.
  - Equipment, SoPs and staffing are major limiting factors.
  - More inclined towards terrestrial and much less towards AAD
- The labs at Makerere University (CoVAB) and NARO-Kajjansi ARDC have live fish holding systems that are used mainly for research in fish health, less on routine surveillance.
- National Animal Disease Diagnostics and Epidemiology Centre (NADDEC) has lab capacity, but is also less focused on routine AAH surveillance.
- Under the EAC SPS protocol, the One-Stop border posts are expected to have infrastructure for temporarily holding both live fish, fish feeds and other fish products for inspection and quarantine before clearance. *This is not yet done?*



## Step 7: Study design in sampling

The collection and maintenance of a comprehensive database on fisheries, aquaculture and related aquatic parameters is not reliable at the moment.

- Different agencies are mandated or involved in data collection and management e.g;
  - MWE-General water quality parameters
  - NEMA-General environmental parameters, including aquatics.
  - Local Authorities –Fish catches and aquaculture farmers
  - MAAIF-Central data base on fisheries/aquaculture licensing, permits, production, certification and marketing
  - NARO-NaFIRRI -Aquatic parameters and fish stocks.
- These agency databases are not well integrated or easily cross-referenced.
- This scenario makes it difficult to accurately describe epidemiological units for larger scale surveillance. Surveillance is therefore likely to be done using an emergence rather than pro-active approach.

## Step 8: Data Collection and management

- Because quality of data collection and management affects success of surveillance, the data should be collected and reported in easy-to-analyse formats.
- This requires skilled personnel and digital tools, which are not sufficiently available at the moment.
- AAH data would require a well linked information collection and management system involving all relevant levels, actors and agencies vertically and horizontally. This is missing at the moment.
- *In the case of the recent Uganda active TiLV surveillance program, specific data tools were developed and applied.*



## Step 9: Data Analysis

- Because of the gaps highlighted in No 7 & 8 above, aquatic animal health parameters are not well collected nor collated.
- Therefore data on aquatic animal diseases are not readily integrated into a national system of collection, collation, analysis and validation.
- The country needs to improve in this aspect.

## Step 10: Data Validation and Quality Assurance: There are several gaps at different levels

### 1. At farm level:

- No nationally validated nor standardized tool kits for the early detection of different aquatic animal diseases
- Farmer awareness levels are low
- Extension staff are often inadequate or not sufficiently tooled/retooled in diagnostics

### 2. At laboratory level:

- No regularized national AAH diagnostic manual with nationally validated diagnostic protocols (by either national veterinary laboratory services, fisheries laboratory services or NARO)
- No regularized quality assurance measures in place such as peer review or external audits of lab services.

### 3. National Level:

- No national central system for reporting and collating of aquatic animal disease data.
- The country at the moment cannot ascertain its aquatic animal sanitary status and consequently report with confidence to WOAHA.



## Step 11: Human and Financial Resources and Logistics

- Several training institutions (Universities and Agricultural Training Colleges) are increasingly putting out graduates with significant knowledge and skill levels in AAH.
- However financial and logistical capabilities are often irregular and insufficient
- Integration of veterinary and aquatic sciences weak.

- **Step 12: Surveillance prospects: Looking at the Medium Term Future**
- Enabling policy frameworks are available at national and international levels
- Technical training capacity is available within country and abroad, but should be enhanced.
- CoPs and SoPs for AAD surveillance are being developed.
- Two Central labs are to be set up under MAAIF (Food lab and diagnostics lab)
- Financial and Logistical capacity needs improvement
- In-country systems for collaboration in collection, management and sharing of data on AAH are paramount and need to be built-up or strengthened vertically and horizontally.