

UTF/077/ZAM: Technical Assistance to the
Zambia Aquaculture Enterprise
Development Project (ZAEDP)

Session 3: Introduction to the 12-point surveillance checklist: active surveillance for EUS and TiLV

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Outline

- Why a 12-point surveillance checklist?
- Development of the 12-point surveillance checklist
- 12-point surveillance checklist
- Step, description, criteria

Why a 12-point surveillance checklist?

- Government services and officers responsible for aquaculture health management in developing countries often have limited formal education in epidemiological approaches to disease control.
- The Aquatic animal health code of the World Organization for Animal Health (OIE) requests that member countries provide information regarding its aquatic animal health status, allowing transparency so that planning, surveillance activities, analysis, and availability of data and information are maintained at all times in compliance with prescribed standards.
- In such situations, development of country's capacity to apply surveillance and survey programmes is challenging, particularly when the resources needed for training and implementation of surveillance programme are limited.

Why a 12-point surveillance checklist?

- Knowledge of the fish species biology, aquaculture practices, interaction with wild aquatic species and other aspects of aquaculture health management are essential for an interdisciplinary approach to aquatic disease control.
- An additional problem is that monitoring and surveillance activities for aquatic animal diseases conducted by governmental offices often remain unpublished.
- In addition, there is limited transfer of field and scientific information between developed and developing country aquatic health surveillance systems.

Development of the 12-point surveillance checklist

- In response to requests from FAO member countries for detailed guidance on the design and implementation of surveillance programs for aquatic diseases that is practically applicable for developing countries and to be implemented by non-specialists, i.e. government personnel and extension officers with no formal training on epidemiology but building on their skills in practical aquaculture and basic knowledge on aquatic animal health.
- Developed by FAO in collaboration with country proponents of several countries participating in FAO projects.

Development of the 12-point surveillance checklist

- The guidance for the design and implementation of an active surveillance for targeted diseases is work in progress and continuously being updated as experience and knowledge in field application are gained.
- The ultimate objective is to achieve a practical but methodological (step-by-step) education for non-specialists in developing countries facing common technical, environmental, infrastructural and financial challenges.
- The main references used in the development of the checklist are those of Cameron (2002), Subasinghe, McGladdery and Hill (2004) and Corsin *et al.* (2009) to ensure that the main elements of any aquatic animal surveillance programme are captured.

12-point surveillance checklist

#	Element	#	Element
1	Hazard/Disease scenario setting	7	Study design and sampling
2	Defining data collection objective	8	Data flow and management
3	Definition of population	9	Data analysis and methodology
4	Clustering of disease	10	Validation and quality assurance
5	Case/outbreak definition	11	Human and financial resources and logistics requirements
8	Diagnostics/Field and laboratory tests	12	Putting surveillance in the big picture through feedback and lessons learned

12-point surveillance checklist that contains the step description and requirements (criteria)

Step	Description	Criteria
1	Hazard/Disease scenario setting	<p>Selection of disease of concern will depend on country proponents; ideally it should be included in a country's National Pathogen List. It can fall under any of the following categories:</p> <ul style="list-style-type: none">• exotic: not present in the country, e.g. OIE-listed diseases of relevant aquaculture species of a country• endemic: diseases that are commonly affecting cultured species (i.e. production-related diseases, mostly bacterial or parasitic diseases)• emerging: either known (spreading to new geographical areas or affecting new susceptible species) or unknown and previously undiagnosed diseases

12-point surveillance checklist that contains the step description and requirements (criteria)

2	Defining data collection objective	<ul style="list-style-type: none">• Set with respect to disease• Set with respect to disease presence• Set with respect to level of certification• Set with respect to timeframe
3	Definition of population	<ul style="list-style-type: none">• Includes definition of the population of interest• Includes definition of the targeted population• Includes definition of the study population (population used for sampling)• 3.a. Inclusion criteria are set and described• 3.b Exclusion criteria are set and described

12-point surveillance checklist that contains the step description and requirements (criteria)

4	Clustering of disease	<ul style="list-style-type: none">• Clustering effect of disease is considered and described• 4.a. Clustering effect of disease is accounted in sampling/survey design and data analysis
5	Case definition/outbreak definition	<ul style="list-style-type: none">• Case/outbreak definition are included• 5.a. Clinical• 5.b. Laboratory• 5.c. Epidemiological

12-point surveillance checklist that contains the step description and requirements (criteria)

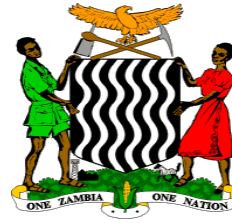
6	Diagnostics/Field and laboratory tests	<ul style="list-style-type: none">• List and description of tests used (procedures, interpretation of results, Se/Sp)• List of laboratories included
7	Study design and sampling	<ul style="list-style-type: none">• Used/described sampling frame• 7.a. Sampling method described• 7.b Sampling units defined• 7.c. Consideration regarding sample size explained• Describe tissues/fluids used as sampling material• 7.a.1. Describe sample selection process

12-point surveillance checklist that contains the step description and requirements (criteria)

8	Data flow and management	<ul style="list-style-type: none">• Data forms included• Data base (design and management)• 8.a. Compatibility of data throughout the collection/analysis process and transparency• 8.b. Consistency, quality and precision of data
9	Data analysis and methodology	<ul style="list-style-type: none">• Survey design described• Risk assessment used and described• Methods of data analysis described

12-point surveillance checklist that contains the step description and requirements (criteria)

10	Validation and quality assurance	<ul style="list-style-type: none">• Done by statistical estimation of the level of confidence (Se of surveillance program)• Done by pilot trial• Done by expert/external evaluation (peer-review)• Audit and corrective measures
11	Human and financial resources and logistics requirements	Included and described (e.g. personnel, cost of sampling, cost of laboratory tests, analysis of data, etc.)
12	Putting surveillance in the bigger picture (NSAAH and PMP/AB)	Surveillance as an essential component of aquatic animal health/aquatic biosecurity strategies, aquatic animal health protection programmes or disease control plans



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Thank you for your attention