Generic guidance in the design and implementation of an active TILV surveillance: 12 point checklist

Checklist #s 1-3

Checklist #	Requirements/Considerations	Considerations
1. Aims/Purpose of surveillance program	Status of TiLV in the country http://www.fao.org/fishery/nems/41072/zh Select from 3 scenarios	Scenario 1: Angola, Kenya, Nigeria Scenario 2: Egypt, Uganda Scenario 3: Ghana
2. **Definition of population: pond, farm, location, region**	1. Description of tilapia sector: culture practices (cultured period, systems, management/scale of operation, etc.) Cultured period April to September 2. No. of registered farms (hatchery 300, grow-out ponds 3000) – database of farmers 3. Species Oreochromis niloticus Need some kind of enrolment/registration in the surveillance project All these farms & hatcheries are registered by the GOFR TiLV hotspots	To be used in finalising the sampling frame (checklist no. 5) and to be used during field visits (Field survey nos. 1 and 2)
3. **Clustering of disease**	time Hatcheries From April to May Grow- out farms From April to first half of July and in Septamber	African data will be very valuable but this well depend on the sampling frame (esp culture practices), costs, etc

Checklist #s 4-5

Checklist #	Requirements		Considerations
4. Case definition	Suspicion: A tilapia farming system in which the farmer has observed during the previous and ongoing production cycle - sudden mortalities and and /or clinical signs such as skin redness/erosions or eyes protrusion/ruptured/cloudiness or abdomen swollen or scale protrusion/loss attributable to the presence of TiLV (e.g. farmer answer "yes"" to the question whether TiLV occurred for not in the farm of interest)		Confirmation: Upon the collection of 30 moribund or sick fish samples, TiLV is confirmed by a positive test result using PCR and the histopathological signs of TiLV

5. Sampling	Sampling frame:each country will prepare the population (#2), clustering (#3) and other details illustrated in a map
	Diagnostic team 2 Doctors from Abbassa & 5 Doctors from AHRI
	Surveillance team 2 from GOFR and 4 from AHRI
	Requirement checklists (field and laboratory)
	Cost estimates
		Field survey materials
		6 sections in one field questionnaire form (**hatchery, grow-out ponds, cages**):
		1. **Farm profile**
		In Kafr ELSheikh gov.
		     80 % grow out = 36 farm
		     20 % hatcheries = 4 hatcheries
		Three divisions:
		North 50 % = 18 farms & 2 hatcheries
		Middle 20 % = 9 farms & 1 hatchery
		South 20 % = 9 farms & 1 hatchery
		1. **Farm technical details**
		2. **Clinical history (TiLV related questions and other environmental data))**
			Laboratory requirements
			1. Select which laboratory for level II Animal Health Research Institute (accredited internationally with ISO 17025)
			2. Team can collect Fish and water samples
			3. AHRI team deliver samples to laboratory
			4. AHRI has form reports for : external examination – water parameters – histopathology level II – PCR level III

Checklist #s 6-7

Checklist #	Requirements	Considerations	
6. Diagnostic testing	SoPs for Level I SoPs for Level II SoPs for Level III Diagnostic team 2 Doctors from Abbassa & 4 Doctors from AHRI Diagnostic laboratory Fish lab. & Pathological Lab. & PCR Lab. Materials PCR	Days 1-3 Training course Days 1-3 Training course Days 1-3 Training course	Cross reference to Checklist No. 5
7. Methodology	Invitation letter to participate and enroll farms • Epidemiological unit: A tilapia farm • Unit of sampling: A mix of **30 moribund or sick tilapia** from ponds at the farm. • Total number of enrolled and participant farms: **40 to 60 tilapia farms**; which should be visited twice (total field visits = 80 to 120, per country - at least 1+ve farm, at 2% Prev). • 1st and 2nd semesters, 2019 (pre/post hot season?)		
	Estimated goal for monthly field visits: approx. **3 tilapia farms per week (range of 2 to 4 farms)** • Timeframe of sampling: 8 months, starting in March 2019. • Sampling proportional for the structure of the industry; only aquaculture settings. Predominant species(?) • e.g., 20 grow-out ponds, 20 hatcheries and 20 cages		

Checklist # 8-9

Checklist #	Requirements	
8. Data management	Database development (Excel) Data management: • Storage • Retrieval • Analysis • Interpretation • Risk communication	Template to be provided for all forms (Checklist no. 5) Classical epidemiological approach: quantify risk factors: other components contributing to the disease development (refer to Snieszko circle) Fill up 2 by 2 table: Contingency table Computation of risk factors (exposed vs non-exposed) Compute: incidence (exposed); Incidence (unexposed) and relative risk
9. Validation	Done by statistical estimation of the level of confidence (not for this project) – Se of surveillance program Done by pilot trial (yes) Done by expert/external evaluation (peer review): Yes	95% confidence is for international sensitivity of the system

Checklist # 10-12

Checklist #	Requirements	
10. Quality assurance	To be discussed	
11: Human and financial requirement	To be discussed	
12. Surveillance in the big piicture	To be discussed	

Checklist # 11 Human and Financial Requirement

Checklist # 11	Requirements	Cost estimate (in USD)
Field survey materials	Fish samples Consummables	Not needed Not needed
Laboratory test materials	Histopathology lab test Consummables	Not needed Not needed
Small equipment	Water quality kit GPS Pocket PCR	Ammonia and nitrite Water kits only Not needed Needed
Diagnostic Team	Composition (3-4)	training (1x, 2 days) Not needed, field travel (per day) Needed
Surveillance Team	Composition (3-4)	training (1x, 2 days) Not needed field travel (per day) Needed
Awareness meetings for farmers	3 x Not needed	
Other miscellaneous expenses	Laptop , Stationary	
Total Cost		

Cross reference to Checklist No. 5 and 7

Guide for Sampling Schedule: (indicate system: pond, hatchery, cages)

Activities	Jan 2019	Feb	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2020	Feb
Preparatory work	X	X	X										
Training	X	X	X										
Pilot test and sampling map	X	X	X										
Field sampling(based on production system and water temperature)			XXX	XXX	XX	X		XXX					
Data entry				X	X	X	X	X	X	X	X		
Data analysis							X	X	X	X	X	X	X
Culture Period (month)		1	2	3	4	5	6	7	8	9			

Cross reference to Checklist No. 5 and 7