

# A N G O L A

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

# Checklist #s 1-3

Checklist #	Requirements/Considerations	Considerations
<b>1. Aims/Purpose of surveillance program</b>	Status of TiLV in the country <a href="http://www.fao.org/fishery/nems/41072/zh">http://www.fao.org/fishery/nems/41072/zh</a>	Scenario 1: Angola We don't have information. We don't know
<b>2. Definition of population: pond, farm, location, region</b>	<ol style="list-style-type: none"> <li>Description of tilapia sector: culture practices (cultured period, systems, management/scale of operation, etc.)</li> <li>No. of registered farms (hatchery, grow-out ponds, cages) – database of farmers</li> <li>Species (esp. susceptible species but also be cognizant of other species)</li> </ol> Need some kind of enrolment/registration in the surveillance project TiLV hotspots	Culture Period: 2/Year Systems: Extensive, Semi-intensive and Intensive N° registry farms: 136 N° Hatcheries: 22 N° Ponds: + 2500 N° Cages: + 650 Farms species: <b><i>Oreochromis niloticus</i></b> Wild – <b><i>Tilapia zillii</i>, <i>Tilapia rendalli</i>, <i>O. macrochir</i>, <i>O. andersonii</i></b> Need some kind of enrolment/registration in the surveillance project TiLV hotspots? YES



# Checklist #s 4-5

Checklist #	Requirements	Considerations	
<b>4. Case definition</b>	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
<b>5. Sampling</b>	Sampling frame:each country will prepare the population (#2), clustering (#3) and other details illustrated in a map Diagnostic team Surveillance team Requirement checklists (field and laboratory) Cost estimates	<b>Field survey materials</b> 6 sections in one field questionnaire form (hatchery, grow-out ponds, cages): <ol style="list-style-type: none"> <li>1. Farm profile</li> <li>2. Farm technical details</li> <li>3. Clinical history (TiLV related questions and other environmental data))</li> <li>4. Field sample collection form: fish samples and water samples</li> <li>5. Socio-economic survey</li> <li>6. Other biosecurity-related questions</li> </ol>	<b>Laboratory requirements</b> <ol style="list-style-type: none"> <li>1. Select which laboratory for Level II (Veterinary Medicine Faculty Lab (Huambo) or Academy of Fisheries and Sciences of Sea in Namibe)</li> <li>2. Fish and water samples (see no. 4 Field materials) Clinic signs fish and water temperature, other water parameters.</li> <li>3. Procedure for sending samples to Field Visit, talk with the farmer, Taking moribund or dead fishes for sampling, Field work and conduct fish necropsy clinic signs, Put a samples organs in test tubes (liver</li> </ol>

# Checklist #s 6-7

Checklist #	Requirements	Considerations	
<b>6. Diagnostic testing</b>	SoPs for Level I SoPs for Level II SoPs for Level III Diagnostic team Diagnostic laboratory Materials	Days 1-3 Training course Days 1-3 Training course Days 1-3 Training course	Cross reference to Checklist No. 5
<b>7. Methodology</b>	<p>Invitation letter to participate and enroll farms</p> <ul style="list-style-type: none"> <li>• Epidemiological unit: A tilapia farm</li> <li>• Unit of sampling: A mix of <b>30 moribund or sick tilapia</b> from ponds at the farm.</li> <li>• Total number of enrolled and participant farms: <b>40 to 60 tilapia farms</b>; which should be visited twice (total field visits = 80 to 120, per country - at least 1+ve farm, at 2% Prev).</li> <li>• 1st and 2nd semesters, 2019 (pre/post hot season?)</li> </ul> <p>Estimated goal for monthly field visits: approx. <b>3 tilapia farms per week (range of 2 to 4 farms)</b></p> <ul style="list-style-type: none"> <li>• Timeframe of sampling: 8 months, starting in March 2019.</li> <li>• Sampling proportional for the structure of the industry; only aquaculture settings. Predominant species(?)</li> <li>• e.g., 20 grow-out ponds, 20 hatcheries and 20 cages</li> </ul>		

# Checklist # 8-9

Checklist #	Requirements	
8. Data management	Database development (Excel) Data management: <ul style="list-style-type: none"><li>• Storage</li><li>• Retrieval</li><li>• Analysis</li><li>• Interpretation</li><li>• Risk communication</li></ul>	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 # 11 Human and Financial Requirement

Cross reference to Checklist No. 5 ad 7

Checklist # 11	Requirements	Cost estimate (in USD)
Field survey materials	Fish samples 120 Consummables – <b>Oil, E-tickeks, rent-car</b>	Per trip: Per trip:
Laboratory test materials	Histopathology lab test Consummables	Per trip Per slide
Small equipment	Water quality kit GPS Pocket PCR	
Diagnostic Team	Composition (3-4) <b>Oil, E-tickeks, rent-car</b>	training (1x, 2 days), field travel (per day) = 14 trips x 4 pers x 100\$ x 6 days = 33.600\$
Surveillance Team	Composition (3-4) <b>Oil, E-tickeks, rent-car</b>	training (1x, 2 days), field travel (per day) = 400\$ + 3.200\$ + 7000\$ = 10.600\$
Awareness meetings for farmers	3 x	2.600.000\$ x 3 = 780.000 \$
Other miscellaneous expenses		
<b>Total Cost</b>		<b>824.200 \$</b>

# Checklist # 10-12

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

# Guide for Sampling Schedule: (indicate system: ponds)

Activities	Jan 2019	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2020	Feb
Preparatory work														
Training														
Pilot test and sampling map														
Field sampling														
Data entry														
xxxx														
xxxx														
Water temperature for TiLV (28-30 C)	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	18 to 22°C	18 to 20°C	20 to 22°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C
Culture Period (month)		1	2	3	4	5	6	7	8	9	10	11	12	1

Cross reference to Checklist No. 5 and 7



# Guide for Sampling Schedule: (indicate system:, hatchery)

Activities	Jan 2019	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2020	Feb
Preparatory work														
Training														
Pilot test and sampling map														
Field sampling														
Data entry														
xxxx														
xxxx														
Water temperature for TiLV (28-30 C)	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C
Culture Period (month)		1	2	3	4	4	6	7	8	9	10	11	12	1

Cross reference to Checklist No. 5 and 7

# Guide for Sampling Schedule: (indicate system: cages)

Activities	Jan 2019	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Jan 2020	Feb
Preparatory work														
Training														
Pilot test and sampling map														
Field sampling														
Data entry														
xxxx														
xxxx														
Water temperature for TiLV (28-30 C)	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	18 to 22°C	18 to 20°C	20 to 22°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C	22 to 28°C
Culture Period (month)	1	2		3	4	4	5	6	7	8	9			

Cross reference to Checklist No. 5 and 7