

FAO/ASTF Project: GCP/RAF/510/MUL:

**Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to
African tilapia aquaculture: Intensive Training Course on TiLV**

4-13 December 2018. Kisumu, Kenya

in cooperation with Kenya Marine Fisheries Research Institute (KMFRRI) and Kenya Fisheries Service (KeFS)

Opening Session:

Presentation of 4P's and Training Course mechanics

Melba.Reantaso@fao.org



**Food and Agriculture
Organization of the
United Nations**

Genesis of the Project

- **July 2017:** inquiry from Angola Permanent Representative to Rome (Ms Dos Santos and Mr C Amaral) expressing their concern about tilapia diseases; FIAA advised current info about TiLV and provided advice what can be done
- **15 September 2017:** Permanent Rep of Angola wrote to FAO DDG
- **24 October 2017:** MR presented the proposal to the ASTF Steering Committee Meeting in Rome
- **29 March 2018:** final approval after internal clearances and putting into the FAO FPMIS system
 - 1 April 2018-March 2020
 - 6 countries: Angola, Egypt, Ghana, Kenya, Nigeria, Uganda

Genesis of the Project

• **Recommendations for Angola:**

- Map out the existing tilapia farms and initiate an active surveillance programme to determine the country health status with respect to TiLV
- Determine whether Angola has imported live tilapia in the past and trace these importation/s and determine the health status of those imports
- Initiate public information campaigns to advise aquaculturists of the threat posed by TiLV, its clinical signs and the need to report unexplained large-scale mortalities to biosecurity authorities, and that so far there is no public health concern for the pathogen; however there is a significant risk of TiLV being translocated both inter- and intra-continentally through the movement of infected live tilapias in the absence of appropriate biosecurity measures.
- Where unexplained mortalities occur, conduct appropriate diagnostic testings, particularly if clinical signs similar to those reported for TiLV are observed.
- Conduct a risk analysis of the likelihood of TiLV being introduced to Angola
- Enhance capacity on TiLV diagnostics, surveillance, biosecurity and emergency preparedness at all levels
- Concerning the possibility of exploring ASTF funding to support actions to address TiLV, FIAA prepared a rough concept note that will focus on TiLV capacity building (diagnostics, surveillance, biosecurity and emergency preparedness), awareness raising and risk communication.

GCP/RAF/510/MUL: Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture

Objectives

- Strengthen aquaculture biosecurity governance and knowledge and capacities on TiLV pathology, diagnostics, surveillance, emergency preparedness, contingency plans and adoption of farm-level TiLV biosecurity and tilapia good farming practices through a National Action Plan on TiLV.
- Exchange knowledge and establish networking support to aquaculture biosecurity and Aquatic Animal Health (AAH) management among participating countries and experts.

Outcomes:

- Effective biosecurity governance through well-planned TiLV national action plans to reduce the negative impacts of the disease.
- Information and knowledge on good and effective aquaculture biosecurity and Aquatic Animal Health (AAH) management practices are shared among the participating African countries.

GCP/RAF/510/MUL: Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture

Activities	Time-Line	Venue
Project Inception Workshop	23-24 October 2018	Nairobi, Kenya
Preparatory work re: requirements for 10-day intensive regional training course on TiLV (technical, logistics/operational and country level information, etc.)	October-November 2018	
First regional workshop: Intensive TiLV training course	4-13 December 2018	Kisumu
Country level implementation of TiLV National Action Plan: Diagnostics, Surveillance, Information dissemination, National consultation, Emergency preparedness	January to December 2019	
Second regional Workshop: Analysis of surveillance data and implementation of TiLV NAP	End of 2019, early 2020 or back to back with International Technical Seminar on TiLV	
International Technical Seminar on TiLV	March 2020	Uganda expressed interest

GCP/RAF/510/MUL: Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture: TiLV Intensive Course

Purpose/Objectives:

- Acquire general knowledge on aquatic animal health management
- Acquire specific knowledge on various aspects related to TiLV
- Receive guidance in the development of National Action Plans (NAP) on TiLV
- Finalise detailed requirements for the implementation of TiLV NAPs

Process:

- 9 full days: 13 sessions: lectures, laboratory, field work, working group/country exercises/homework, presentations and discussions, written exam, awarding of certificates of completion

Day 1: 12/04 Tues

Session Description	Program	Timing
Opening session	KMFRI (Mr Caleb Ogwai) FAO (M Reantaso)	08:30-08:50
	Self-introduction	08:50-09:30
	Presentation of 4Ps (M Reantaso)	09:30-09:45
	Group Photo	09:45-10:00
Session 1: Country updates on National Action Plans (NAP) on TiLV	Country presentations: Review of NAP on TiLV Angola, Ghana, Kenya, Nigeria, Uganda (facilitated by M Reantaso)	10:30-11:00
Session 2: Diseases of aquatic animals	Lecture: Aquatic animal health management (M Reantaso)	13:30-14:00
	Lecture: Diseases of tilapia in Africa (P Akoll)	14:00-14:30
	Lecture: Fish and shrimp viruses (K Tang-Nelson)	14:30-15:00
Water quality	Lecture: Water quality and demonstration of water quality (Fredrick Guya)	15:30-17:00

08:00-08:30: Transfer from hotel to KMFRI/KeFS
17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30/15:00-15:30: Coffee break
12:00-13:30: Lunch break

Day 2: 12/05 Wed

Session Description	Program	Timing
Session 4: Tilapia biology and aquaculture	<u>Lecture:</u> Tilapia biology and aquaculture (P Muera)	08:30-09:00
	<u>Lecture:</u> Tilapia biosecurity protocols at Lake Harvest (P Muera)	09:00-09:30
	<u>Lecture:</u> Tilapia trade: regional and global (B Mapfumo)	09:30-10:00
	<u>Lecture:</u> Tilapia species and geographical distribution in Africa (B Mapfumo)	10:30-11:00
Session 5: Field and laboratory checklist	<u>Lecture:</u> Review of field and laboratory checklist forms (K Tang-Nelson and M Reantaso)	11:00-12:00
Session 2 (continued)	<u>Lecture:</u> Bacterial diseases of tilapia (H Dong)	13:30-14:00
Session 6: What is currently known about TiLV	<u>Lecture:</u> TiLV emergence: causative agent, distribution, epidemiology (W Surachetpong)	14:30-15:00
		15:30-16:30
	<u>Plenary discussion</u>	16:30-17:00

08:00-08:30: Transfer from hotel to KMFRI/KeFS
 17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
 12:00-13:30: Lunch break

Day 3: 12/06 Thurs

Session Description	Program	Timing
Session 7: TiLV diagnostics	<u>Lecture:</u> TiLV diagnostics: Fish necropsy: Clinical signs (Level 1) (H Dong)	08:30-09:30
	<u>Lecture:</u> TiLV dagnostics: Histopathology and collection of samples (Level 2) (H Dong)	09:30-10:00
	<u>Lecture:</u> TiLV dagnostics: Histopathology and collection of samples (Level 2) (H Dong)	10:30-12:00
	<u>Lecture:</u> TiLV diagnostics (PCR) and collection of samples (Level 3) (W Surachetpong, K Tang-Nelson)	13:30-15:00
	<u>Demo:</u> TiLV diagnostics (PCR) and collection of samples: Level 3) (W Surachetpong, K Tang-Nelson)	15:30-16:30
	<u>Plenary discussions</u>	16:30-17:00

08:00-08:30: Transfer from hotel to KMFRI/KeFS
 17:30-18:00: Tranfser from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
 12:00-13:30: Lunch break

Day 4: 12/07 Frid

Session Description	Program	Timing
Session 7: TiLV diagnostics	Laboratory: Histopathology (H Dong, W Surachetpong)	08:30-10:00
	Laboratory: Fish necropsy and collection of samples for histo (H Dong)	10:30-12:00
	Laboratory: Collection of samples for PCR (W Surachetpong, K Tang-Nelson)	13:30-15:30
	Laboratory: Demo of PCR test and interpretation of results (W Surachetpong, K Tang-Nelson)	
	Laboratory: Demo of pocket PCR for TiLV (N Chen, K Tang-Nelson)	15:30-16:30
Session 8: Preparation for field work (all experts/participants)	Review of checklist and forms	16:30-17:30

08:00-08:30: Transfer from hotel to KMFRI/KeFS
17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
12:00-13:30: Lunch break

Day 5: 12/08 Sat and Day 6: 12/09 Sun

Session Description	Program	Timing
Field Work	Visit to two farms Filling up of field trip checklist Collection of field samples	08:00-18:00
Home Work and Free day	NAP on TiLV Visit to Lake Nakuru and Cogello (optional)	03:00-20:30

08:00-08:30: Transfer from hotel to KMFRI/KeFS
17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
12:00-13:30: Lunch break

Day 7: 12/10 Mon

Session Description	Program	Timing
Session 9: TiLV Risk assessment	<u>Lecture:</u> TiLV Expert Knowledge Elicitation (EKE) risk assessment (M Reantaso)	08:30-09:15
	<u>Lecture:</u> TiLV Risk management	09:15-10:00
Session 10: Socio-economic impact assessment	<u>Lecture:</u> Introduction to socio-economic impact assessment (M Nagadya)	10:30-12:00
Session 11: Disease disease surveillance	<u>Lecture:</u> Introduction to epidemiology and surveillance (F Mardones and N Fejzic)	13:00-15:00
	<u>Lecture:</u> Development of 12-point checklist for active TiLV surveillance	15:30-16:30
	<u>Group discussion:</u> 12-point checklist for active TiLV surveillance	16:30-17:30

08:00-08:30: Transfer from hotel to KMFRI/KeFS
 17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
 12:00-13:30: Lunch break

Day 8: 12/11 Tues

Session Description	Program	Timing
Session 11: Disease disease surveillance	<u>Lecture:</u> Introduction to epidemiology and surveillance (F Mardones and N Fejzic)	08:30-10:00
	<u>Group discussion:</u> Development of 12-point checklist for active TiLV surveillance (N Fejzic, F Mardones)	
	<u>Lecture:</u> Introduction to epidemiology and surveillance (F Mardones and N Fejzic)	10:30-12:00
Session 11: Disease disease surveillance	<u>Group discussion:</u> Development of 12-point checklist for active TiLV surveillance	13:30-15:00
Session 10: Socio-economic impact assessment (continued)	<u>Lecture:</u> Introduction to epidemiology and surveillance (F Mardones and N Fejzic)	15:30-16:30
	<u>Group discussion:</u> Development of 12-point checklist for active TiLV surveillance	
	<u>Group discussion:</u> Socio-economic impact assessment survey questionnaires (M Nagadya)	16:30-17:30

08:00-08:30: Transfer from hotel to KMFRI/KeFS
 17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
 12:00-13:30: Lunch break

Day 9: 12/12 Wed

Session Description	Program	Timing
Session 12: Individual country work on NAP on TiLV and implementation	<u>Country group work</u>	08:30-11:30
Session 13: Emergency preparedness and response	<u>Lecture:</u> Principles of emergency preparedness and contingency plans (M Reantaso)	11:30-12:00
	<u>Lecture:</u> TiLV disease strategy manual (part of contingency plan) (K Tang Nelson):	13:30-14:00
	<u>Lecture:</u> Disease outbreak investigation (D Huchzermeyer): 14:30-15:30	14:00-15:00 15:30-16:30
	<u>Lecture:</u> Emergency preparedness and response: simulation exercise (F Mardones, N Fejzic):16:00-17:30	16:30-18:00

08:00-08:30: Transfer from hotel to KMFRI/KeFS
17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:00-10:30:/ 15:00-15:30: Coffee break
12:00-13:30: Lunch break

Day 10: 12/13 Thur

Session Description	Program	Timing
Session 12: Individual country work on NAP on TiLV and implementation (continued)	Preparation of country presentations on TiLV NAP	08:30-09:00
	Country presentations Angola: 09:30-09:15 Ghana: 09:15-09:30 Egypt: 09:30-09:45 Kenya: 09:45-10:00 Nigeria: 10:00-10:15 Uganda: 10:15-10:30	09:00-10:30
	Written exam:	10:45-11:15
	General discussion and the Way Forward: 11:00-12:00	11:15-11:45
Closing	Distribution of certificates and closing: <ul style="list-style-type: none"> • Ms Susan Imende (Ag. Dir General, KeFS) • Dr Gabriel Rugalema (FAOR Kenya) 	11:45-12:30

08:00-08:30: Transfer from hotel to KMFRI/KeFS

17:30-18:00: Transfer from KMFRI/KeFS to Hotel

10:30-10:45: Coffee break

12:30-13:30: Lunch break

GCP/RAF/510/MUL: Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture: TiLV Training Course

Participation: The course will be participated by the following:

- Countries (6): Angola, Egypt, Ghana, Kenya, Nigeria, Uganda
- Country delegates:
 - Angola (2); Ghana (2); Egypt (2); Nigeria (2); Uganda (4)
 - Kenya: 10-12
- International experts: 9
 - TiLV, epidemiology, aquatic animal health, socio-economics, tilapia aquaculture and trade
- FAO: FIAA (Aquaculture branch), FAOR Kenya

GCP/RAF/510/MUL: Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture: TiLV Training Course

Products: The expected outcomes of the PIW are below:

- 1) enhanced knowledge about the project, objectives, scope, components, outputs and implementation plans
- 2) enhanced knowledge on various aspects of TiLV
- 3) detailed TiLV NAP implementation plan: components, field and technical requirements, time-line, responsibilities, monitoring and reporting

FAO/ASTF Project: GCP/RAF/510/MUL:

**Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to
African tilapia aquaculture: Intensive Training Course on TiLV**

4-13 December 2018. Kisumu, Kenya

in cooperation with Kenya Marine Fisheries Research Institute (KMFRI) and Kenya Fisheries Service (KeFS)

**Thank you very much for your attention
Asante sana!**



**Food and Agriculture
Organization of the
United Nations**



Food and Agriculture
Organization of the
United Nations

Thank you for your attention

Melba.Reantaso@fao.org

**Project Inception Workshop of GCP/RAF/510/MUL:
Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture
Southern Sun Myfair Hotel, 23-24 October 2018, Nairobi, Kenya**