Enhancing capacity/risk reduction of emerging Tilapia Lake Virus (TiLV) to African tilapia aquaculture

Nagadya Rose Melissa.

Project Inception Workshop of GCP/RAF/510/MUL:
Southern Sun Mayfair Hotel,
23-24 October 2018,
Nairobi, Kenya

Family doesn't have a meal. Should we go hungry yet there is this?

Trans-boundary diseases forecasting at country level in SADC
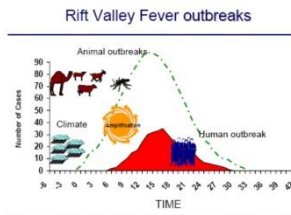
| Country	Diseases	Level
Angola, Botswana, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe	FMD Outbreak(SAT types)	**Occurred**
Madagascar	Desert Locust	
Southern Africa	Banana Bunchy Top Disease(BBTD)	
Likelihood of occurrence of diseases threats at country level		
DRC	Epizootic ulcerative syndrome (EUS)	High
Madagascar	Migratory Locust	Medium
Malawi	Red gum lerp psyllid Blue gum chalcid	High High
Mozambique	Acute hepatopancreatic necrosis disease(AHPND) Red gum lerp psyllid Banana Fusarium wilt disease	Low High Low
South Africa	Banana bunchy top disease (BBTD) Blue gum chalcids Red gum lerp psyllid	Low High High
Uganda	Rift Valley fever (RVF) Blue gum chalcids	Moderate High
Tanzania	Rift Valley fever (RVF)	Moderate
Zambia	Epizootic ulcerative syndrome (EUS) Blue gum chalcids Red gum lerp psyllid	Moderate High High
Zimbabwe	Foot-and-mouth disease (FMD) Bronze bug Blue gum chalcids Red gum lerp psyllid	Low High High High

Overview: trans-boundary diseases affecting Food Chain in Africa

Figure1: Number of Food Chain Crisis threats by threat category in Africa

Source: FAO(2016)Food Chain Crisis Early Warning Bulletin. No.19 April-June 2016
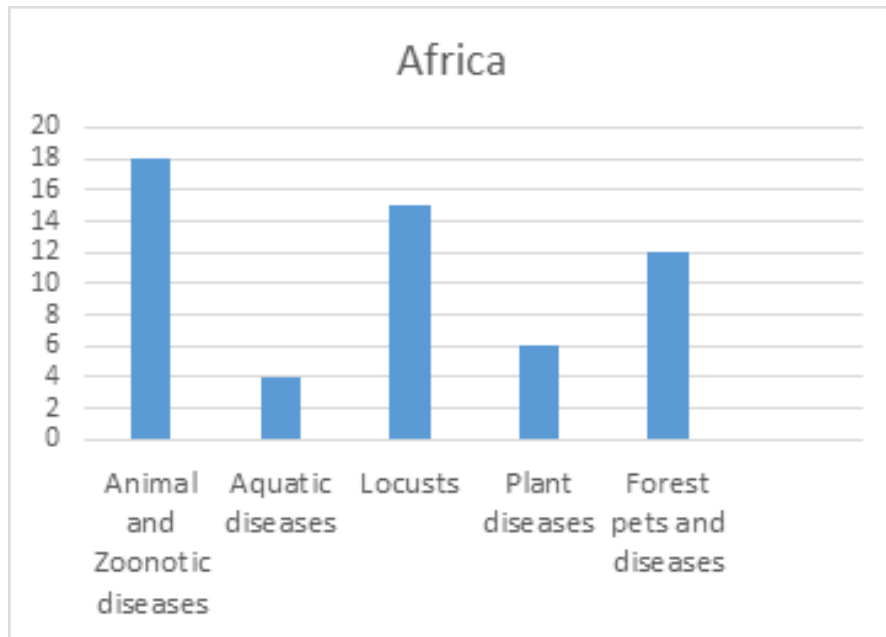
Figure2: Number of forecast events by the level of likelihood of occurrence
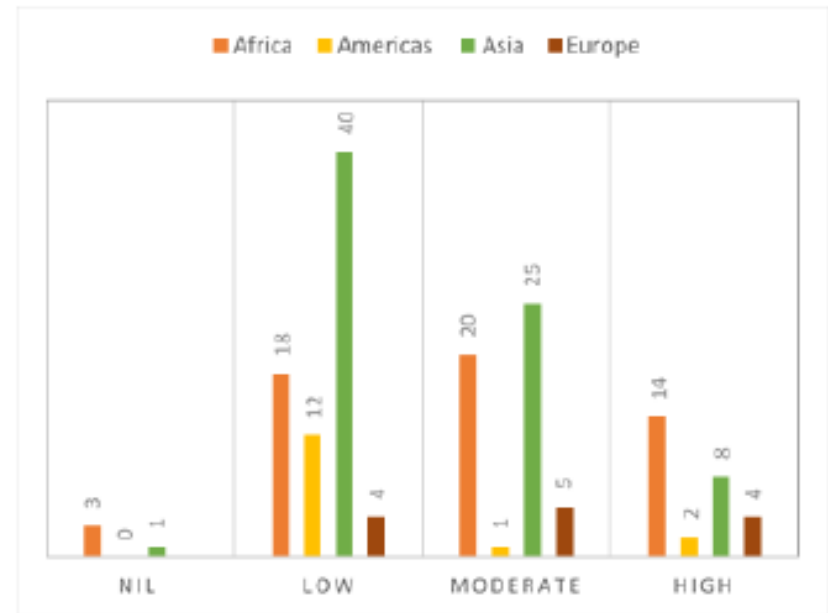
Source: FAO(2016)Food Chain Crisis Early Warning Bulletin. No.19 April-June 2016

OBJECTIVES AND SCOPE OF THE STUDY

1. One of the objective of the study is to analyze and evaluate the social-economic impact of the Tilapia Lake Virus (TiLV) and its Effect to both the community and country's economy.

2. To examine   the outbreak effects on the country's revenue and community activities within zones where the disease is already established.

3. To strengthen/create the regional economic bodies in monitoring and reducing the virus movement

4. To sensitise and create awareness

5

The Draft study structure and process.

- The study will be structured in a few chapters, including
- **Chapter 1:** Introduction
- **Chapter 2:** The conceptual Framework and methodology,
- **Chapter 3:** Some literature on Tilapia Lake Virus (TiLV) since the beginning of the outbreak.
- **Chapter 4:** outlines the Current country situation vs Food security and scale of the response
- **Chapter 5:** macroeconomic analysis of Tilapia Lake Virus (TiLV) Social–Economic impacts.
- **Chapter 6:** looks at gender dimensions and the vulnerability of some of the affected countries
- **Chapter 7:** present perceptions analysis of the outbreak,
- **Chapter 8:** Way forward and policy recommendations to support decision making.

How does the Outbreak affect the linkages between trade and food security

In food security, with the threat of the Tilapia outbreak Virus, there is risk on the 4 key dimensions of trade. The impacts can be positive or negative, with trade affecting different variables in the short, medium and long terms.

Trade →

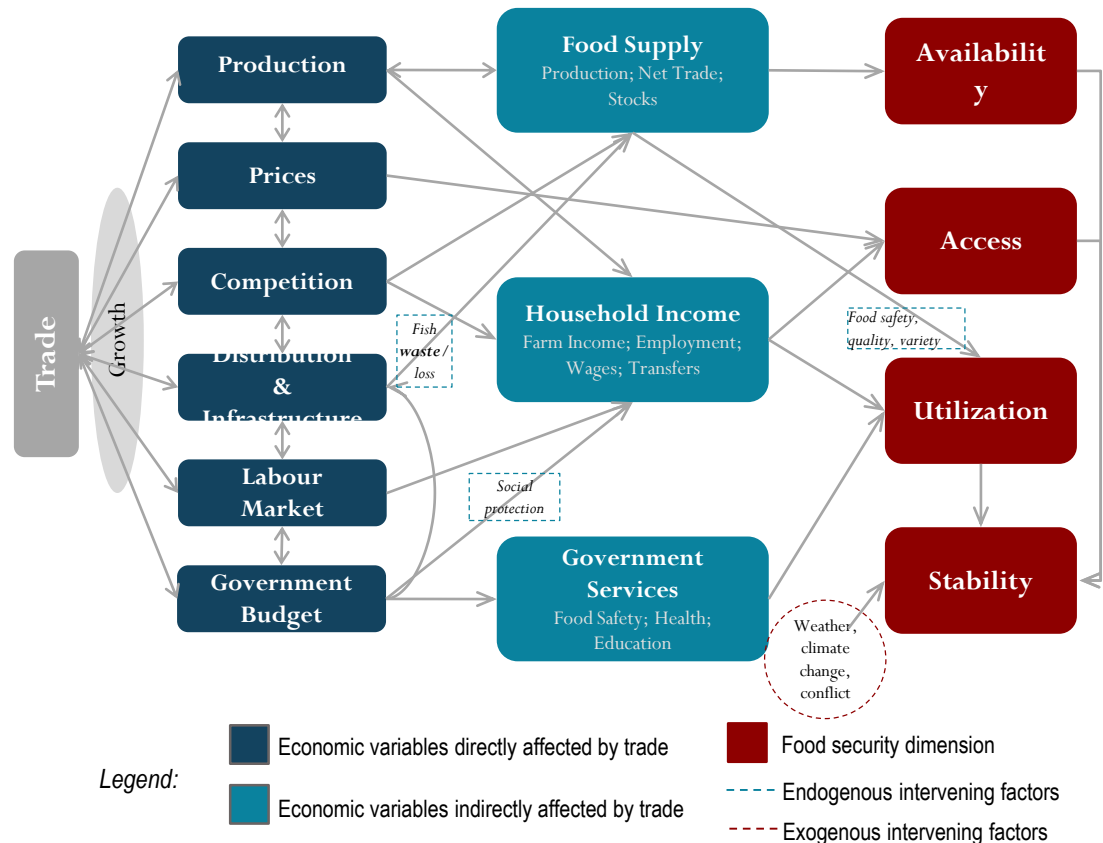|	
Availability	The availability of sufficient quantities of food of appropriate quality supplied through domestic production or imports is affected
Access	The access by individuals to adequate resources for acquiring appropriate foods for a nutritious diet in less impossible.
Utilization	Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being is a challenge
Stability	Access to food at all times, without risk of sudden shocks or cyclical events disrupting this access is less likely.

Linkages between Fish trade and food security

The links between Fish trade and food security are inherently complex, with several channels of interaction affecting the different dimensions of food security simultaneously. This has got both Social and Economic effect.

o **Immediate effects on**: food production, total supply, prices, employment and government revenues

o **In the longer run, effects on**: competition, marketing, infrastructure, value chain development, investments.

Legend:
- ■ Economic variables directly affected by trade
- ■ Economic variables indirectly affected by trade
- ■ Food security dimension
- ----- Endogenous intervening factors
- ----- Exogenous intervening factors

Sub-Saharan Africa: projections for agricultural production & trade

o **In the region, Projected demand for food is expected to grow at more than 3% p.a. towards 2025**;

o **Agricultural production is projected to rise by 2.6 percent a year** driven by increased productivity

o **Production of food in many countries is expected to grow more slowly than demand**

OECD-FAO agriculture outlook 2016-2025 - Special feature on SSA

Introduction.

- Economic Benefits of Tilapia.

Tilapines, comprising more than 100 species, are the second most import group of farmed fish worldwide after carp. In some regions they are ecologically important (algae and mosquito control and habitat maintenance for shrimp farming) and an important wild capture species.

- Over 150,000 tons of tilapia from tilapia farming and more from the tilapia fisheries with their associated costs could be threatened in the SSA due to TiLV out break.

- It is hardy and can be farmed under diverse farming systems with little environmental impact, making it an important aquatic food source contributing to global food and nutritional security.
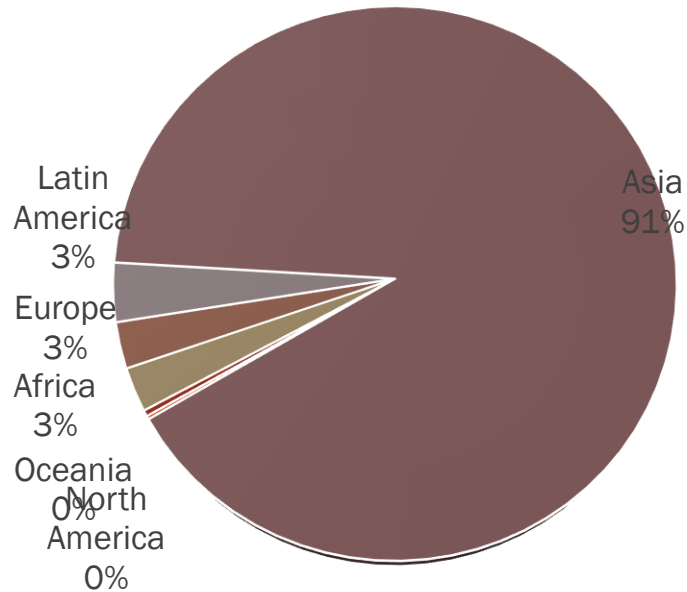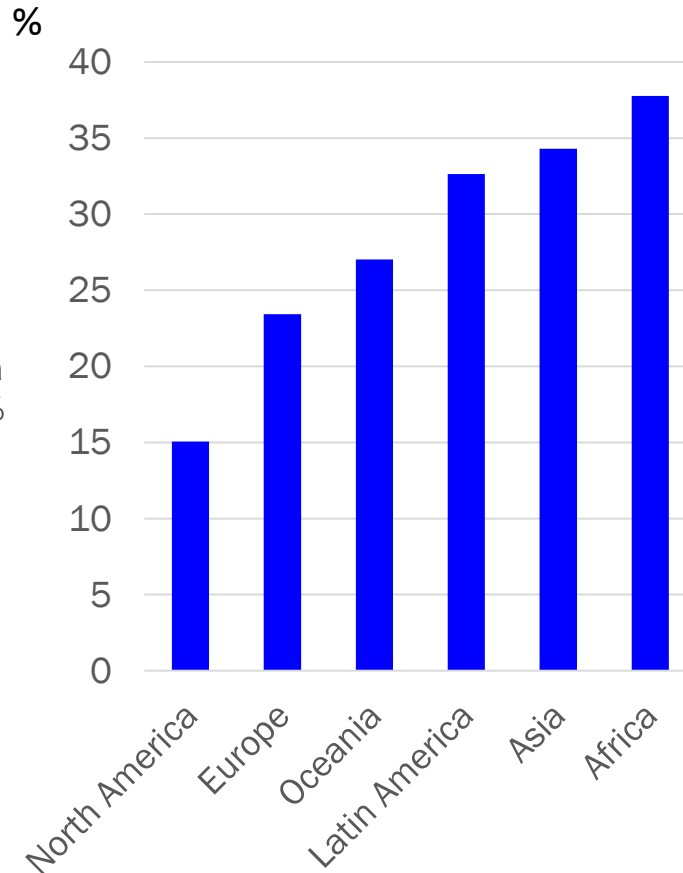
Social Benefits of Tilapia

This creates Employment, accessibility, and affordability but is it the right way, What are the control measures, What can be done?

Aquaculture growth

+26 million tonnes

p.a.	0.7	1.8	1.5	3.1	2.3	3.3

Reviews the conceptual Framework and methodology

The actual methods that will be employed for undertaking assessments would vary on a case-by-case basis from area to area. Factors which would determine the type of assessment to be undertaken include:

- Likely level of perceived impact on fishing activities and community concern

- Value of the fishing affected

- Numbers of fishers potentially affected

- Level of community dependence on the resource

- Level of individuals' dependence on the resource

- Availability of suitable existing data.

SEIA country activities may include, country baseline profiling

The following information may be identified in a baseline profile:

- types of activities which may be affected, who undertakes these activities, when and where (Fish value chain)

- extent/scale of activity potentially affected and the range of values associated with these Fishing activities

- historical, regulatory and other factors impacting on these activities

- methods of contacting people who may be affected so they can provide data about potential impacts

- geographic location of members of groups who may potentially be impacted by the Virus outbreak

- proportion of the group, or of their activity, likely to be affected.

Country Data availability.

- Do we have the necessary Data?
- What is the source of our data

Some literature on Tilapia Lake Virus (TiLV) since the beginning of the outbreak(There is a lot of on this)

- Country's available Documentation.

- Government Actions (Country by country)

- Awareness actions if any(at all levels)

- Risk management Tools at country level

Outlines the Current country situation vs Food security and scale of the response

- Project Countries

| Country	Risk management Tools at country level	Awareness actions if any
Angola		
Ghana		
Kenya		
Uganda		
Nigeria		
Egypt		

Macroeconomic analysis of Tilapia Lake Virus (TiLV) Social–Economic impacts.

- The methodology will be based on an exhaustive search on TiLV, working directory with countries in **data collection and consultations**, **Research institutes** and **academia**, at the moment we are mainly focusing on the project countries though it would be suggested to work with all the countries in the region since there is a lot of trade at multilateral, and regional level.

- In our Plan we will be using **Social and Economic indicators.** These can be either composed of a combination of variables (e.g. revenues = (income from landings + other income) or they can be a single variable (e.g. total number of people engaged (NUMBER) = number of crew members). Indicators can be presented by day, year, fisher, etc., allowing flexibility in the dissemination of the most relevant form. Further, they can be compared against reference points, time series or amongst segments.

- Socio-economic data are complementary to a wider data collection scheme where all information pertaining from Production to Consumption(Value chain) will be used.

Coordination challenge.

There are often weak connections between the policy processes that guide decision making in fish trade and agriculture. This can result in lack of coherence among the trade and agriculture sectoral priorities.

Governance of agriculture and trade planning processes in African least-developed countries
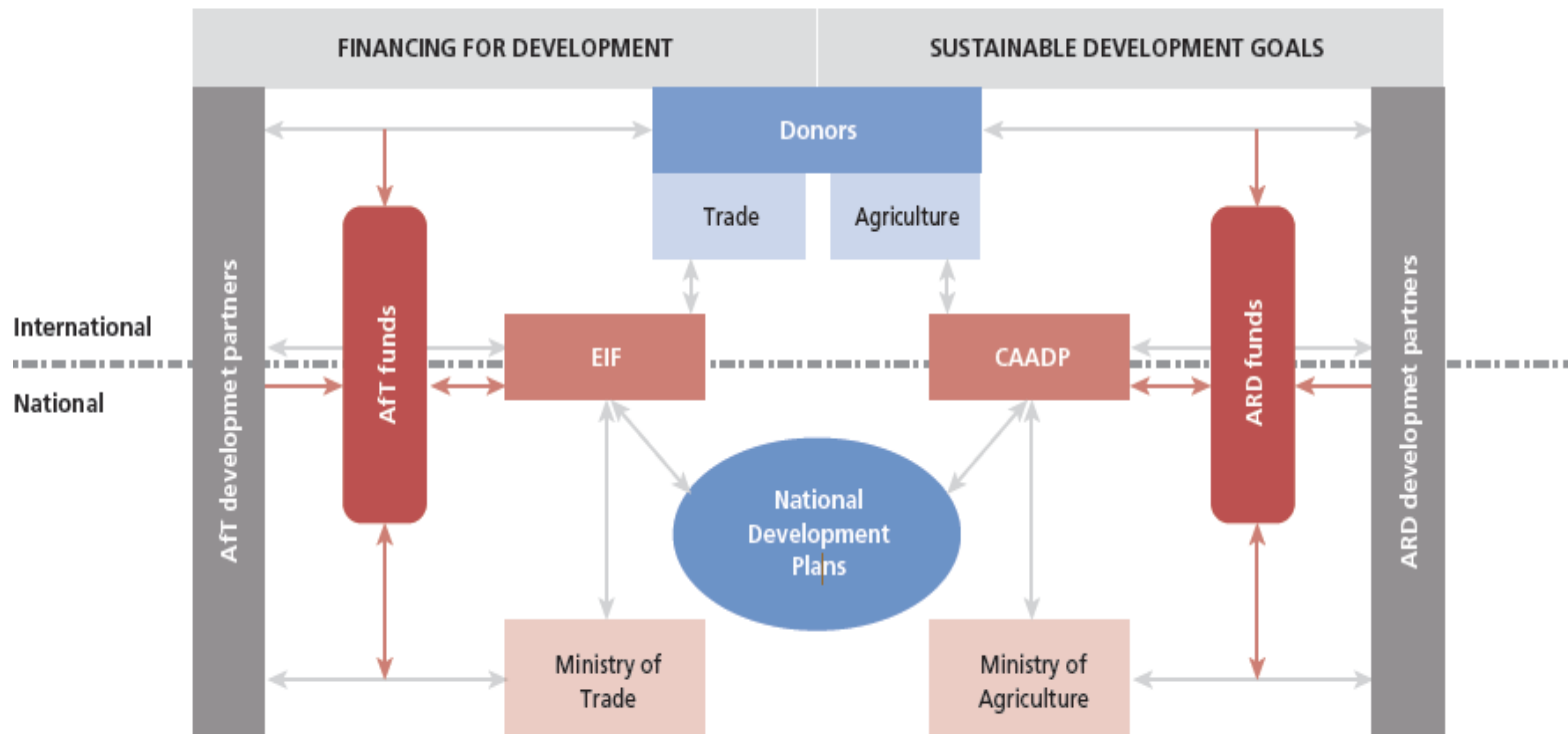
Key Questions for Reflection

1. What has been the role of the Regional Economic Community(RECs) in fighting these threats?

2. How and what Government can do support both Women and Men farmers in reducing the Outbreak impact

3. Does your country have simple/practical surveillance plan to map the spread of TiLV? If yes how is this being implemented?

4. Is there any Monitoring of fish movement from affected farms

5. Do we have the available data sources in our countries?

Thank you for your attention

nagadya.melissa@fao.org
meljaypee@gmail.com

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