



## TRUEFISH

EU-EAC TRUEFISH Farming Story in Lake Victoria Basin

### TRUEFISH NEWSLETTER on IMPLEMENTATION OF *ADVANCING AQUACULTURE IN EAST AFRICA*

#### JANUARY - JUNE 2023 EDITION

#### Executive Secretary's Message



Happy New Year!

We hope you had a happy and safe holiday season! As we leave behind 2022, we cannot thank you enough for your continued and unwavering support on implementing the TRUEFISH Project. We still have a lot of work to do, but we have also accomplished a lot in recent years. This year we strive to make an even bigger impact and I am confident that we will see many more milestones in the months and years to come.

In this newsletter, we have many important updates for you as follows:-

- ✚ Recruitment of a Consultant to carry out the Mid Term Review;
- ✚ The Aquatic Resources and Blue Economy Conference (ARBEC) 28 November-1<sup>st</sup> December 2022, Kisumu, Kenya;
- ✚ FAO TRUEFISH Regional Workshop on Aquatic Organism Health (AOH) 23-26 February 2023 Kisumu, Kenya;
- ✚ East African Regional Aquaculture Conference, 14-17 March 2023, Bondo, Kenya;
- ✚ Aquatic Animal Health Technical Working Group meeting for the review of the AAH National Assessments, 20-22 February 2023 Kisumu, Kenya;
- ✚ 23 - 26 February 2023; Training for National Officers/Experts in Aquaculture Spatial Planning.

We're grateful for your continued support in our efforts to create a world where people and nature thrive. With that, I wish all of us happy reading!

**Dr. Shigalla Mahongo**  
**Executive Secretary**  
**Lake Victoria Fisheries Organization**

## LANDELL MILLS

It has been a busy period for Component 1 of TRUEFISH, particularly as we led the arrangements for the East African Regional Aquaculture Conference that was successfully held at the Jaramogi Oginga Odinga University of Science and Technology (JOOUST) in Kenya from 14 to 17 March 2023. This conference was physically attended by 180 people and followed online by a further 145 people. In addition to these some 95 farmers participated in roundtable discussions and practical training, proving that an academic conference can be held side-by-side with a farmer's event.

The conference in Kenya also provided opportunities for delegates to visit some farms around Bondo, gave exposure to youth and resulted in the transfer of skills in conference planning and management. This has set a good foundation for the next conference which is being planned for Mwanza, Tanzania in May 2024. Moreover, these conferences are preparing the East African region for the Aquaculture World Conference that will be hosted in Entebbe, Uganda in June 2025.

To increase the flow of investment into East African aquaculture, generic business plans have been developed for both catfish and tilapia. This work is now in its final stages of completion with validation planned for late May 2023. Once finalized it is intended that these plans will serve as a baseline framework for farmers to better be able to compile their own business plans and as a sector access guideline for financial institutions and funders. These plan will unlock several remaining activities for Component 1, including the engagement of more potential sector investors.

Much effort has been made to engage directly with regional associations to ensure that there needs are better

understood. This engagement is being used to inform the B2B training sessions that are being planned for the second half of 2023, which will be run in parallel with physical B2B connections between farmers and service/goods providers.

After the successful study tour to Egypt in 2022, the next study tour will visit farms, research facilities and expositions in China in September 2023. The candidate selection process for the tour is currently underway and more effort will be put into the dissemination of attained knowledge after the upcoming travels. The study tour for 2024 will see delegates visit Ghana.

## **Development of Aquaculture Short Courses for Training Aquaculture Professionals and Delivery of Train of Trainers (ToT) for increasing Technical Skills of the Teachers from RIAT, FETA and FTI**

The Food and Agriculture Organization of the United Nations (FAO) has collaborated with Bureau Veritas Kenya Limited to develop a Train of Trainers (ToT) program on Food Safety for reinforcing the skills of that Technical and Vocational Education and Training (TVET) institutions involved in the TRUEFISH. The ToT program consisted of two-week short courses (Nairobi, March 2023) for professional teachers in aquaculture, providing them with the necessary knowledge and skills to further teach their students and aquaculture farmers the principles of Food Safety. The program has already been conducted for nine teachers in Nairobi in March 2023.

Moreover, FAO has signed a Letter of Agreement with the Dar es Salaam Maritime Institute in Tanzania to provide



FAO TRUEFISH Food Safety for Aquaculture Training of Trainers, Nairobi, Kenya from 20 to 27 March 2023

a short course on "boat operations, navigation and lifesaving skills" adapted to aquaculture-related maneuvers for professional working in farms. DMI will conduct a ToT program for nine selected staff members from FETA, RIAT, and FTI on the same subject, aiming to enhance their skills and knowledge to train aquaculture farmers in the Lake Victoria Basin.

A third LOA with the Chinese Freshwater Fisheries Research Center (FFRC), will provide by April 2023, a short course on Cage Construction, Installation, Maintenance and Management. Nine TVETs' teachers will travel to China in June 2023 to be trained as TOT on the same subjects.

Additionally, FAO is about to sign an agreement with Lattice International Aquaculture and its Aquaculture Academia, based in Kenya, to develop eight short-term aquaculture training courses for professional training of aquaculture farm staffs. The contract with Lattice includes nine Training of Trainers (ToT)

opportunities for selected TVETs staff aimed at developing their skills in specialized aquaculture subjects. Both TOT and short courses are covering various technical areas, including aquatic animal health/water quality management, feed production and feeding technology, hatchery construction, seed production and management, postharvest management and marketing/value addition/quality assurance, fish farm management/best fish farm management practices, laboratory practices/lab equipment operation, aquaculture technologies, emerging production systems, RAS, aquaponics, value chain management, and environmental impact assessment.

### **TRUEFISH is supporting TVETs' on improvement of Facilities and Equipment**

TRUEFISH, FAO component, is providing support to Technical and Vocational Education and Training (TVETs) institutions in upgrading their facilities and equipment to align with the technological advancements in aquaculture and cage culture. The project has identified that the existing aquaculture and training infrastructure in vocational institutions is mostly obsolete and outdated, requiring significant repairs or replacement due to technological obsolescence.

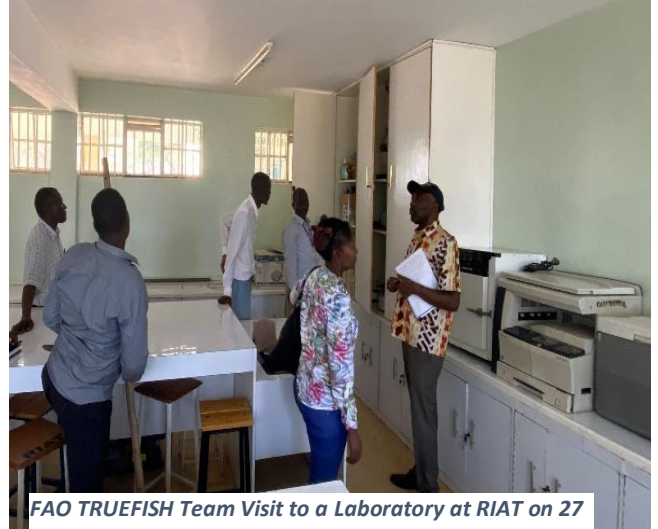
While TVETs have played a significant role in aquaculture training, the current state



*FAO TRUEFISH TEAM Visit to RIAT Fish Pond on 27 February 2023*

of equipment and facilities does not allow them to provide quality training that meets industry requirements. Therefore, there is an urgent need for the upgrades of aquaculture and training infrastructure in vocational institutions in the region. To address this issue, TRUEFISH is collaborating with TVETs to upgrade their facilities and equipment across different categories, including breeding, hatchery and grow-out facilities, laboratory, library and books, computers and ICT equipment, fish products processing unit, and more.

The project has assessed existing facilities and equipment and identified needs through various processes, including TNAs and business plans. In line with FAO's procurement guidelines, equipment and facilities upgrades/purchases are being procured from suppliers who have been assessed, selected, and contracted. Installation of new equipment, upgrading of existing facilities, and construction of new facilities where necessary will be completed by June 2023.



*FAO TRUEFISH Team Visit to a Laboratory at RIAT on 27 February 2023*

The initiative involves the installation of new equipment, upgrading of existing facilities, and the construction of new facilities where necessary. The project is providing TVETs with a modern and up-to-date training environment, which will enable them to produce highly skilled graduates that are in line with the industry's requirements. TRUEFISH, through this initiative, is committed to support TVETs and improving the quality of training that they offer. By upgrading their equipment and facilities, TVETs will be better equipped to produce graduates that are skilled and competitive in the industry, which will, in turn, contribute to the growth of the aquaculture and fisheries sector in the region.

## TRUEFISH keeps advancing in aquaculture zoning in the Lake Victoria



TRUEFISH is making significant progress in aquaculture zoning



*Professor Trevor Telfer of the University of Stirling, Resource Person during FAO TRUEFISH Spatial Planning Training to select Officers and Zoning Members from 23 to 26 February 2023, Kisumu, Kenya*

in Lake Victoria in line with the FAO and LVFO mission to improve sustainable management of aquatic resources. During the last quarter of 2022, FAO signed two Letters of Agreement (LOAs) with The Nature Conservancy (TNC) and the University of Stirling. Under these contracts, TNC provided updated remote sensing and geospatial data of the Lake Victoria basin, trained 25 experts on aquaculture spatial planning, identified data gaps, proposed solutions, and developed a methodology for field sampling. The University of Stirling conducted a survey and report on spatial analysis of data and participated in the technical training for aquaculture spatial planning. The ongoing LOA is expected to achieve an inventory of existing spatial-analysis capacities and existing information sources in Kenya, Tanzania, and Uganda for Lake Victoria and a report and a set of maps identifying and prioritizing spatial data layers by May 2023. These efforts will facilitate the

identification of optimal areas for cage aquaculture operations, ultimately improving the livelihoods of communities around the Lake Victoria basin.

## FAO TRUEFISH Regional Training in Aquaculture Spatial Planning

The Lake Victoria Fisheries Organization (LVFO) collaborated with the Food and Agriculture Organization of the United Nations (FAO) to enhance the capacity of national and regional institutions in aquaculture spatial planning. To achieve this, FAO conducted the TRUEFISH Regional Training in Aquaculture Spatial Planning from Feb 23rd to 26th, 2023, in Kisumu, Kenya. Participants from Burundi, Kenya, Tanzania, and Uganda participated in a three "national side events on data gathering" during the training. Staff from the University of Stirling, The Nature Conservancy (TNC), and FAO facilitated the training, which involved 39 national delegates, including members of the LVFO Zoning Working Group, TRUEFISH National Focal Points, concerned national and regional authorities, and national aquaculture associations.

The four-day training focused on aquaculture spatial planning techniques and their application in modeling site suitability for aquaculture zoning. The training covered the fundamentals of spatial planning, remotely sensed data, and geographic information systems (GIS) for aquaculture spatial planning (zoning) in Lake Victoria. The participants gained knowledge of carrying capacity modeling for the assessment of limits to aquaculture development within the zones.

The training included workshops, presentations, and in-person training with a combination of exercises that provided

participants with a working knowledge of key concepts within these disciplines.

The modules covered during the training were Fundamentals of Spatial Planning, Fundamentals of Remote Sensing, Fundamentals of QGIS, Data management, Processing, and Visualization using GIS, Sampling methods, monitoring, and data collection, Environmental models of waste discharge and fate, Spatial modeling for site selection and zoning and demonstration of models, Case study small-scale cage farming suitability modeling, and Carrying capacity modeling.

During the training, the participants gained hands-on experience with different sources of remotely sensed data (provided



*Group discussion of Delegates during FAO TRUEFISH Spatial Planning Training to select Officers and Zoning Members from 23 to 26 February 2023 in Kisumu, Kenya*

by FAO, TNC and Stirling University) and learned how to acquire, process, and store remotely sensed data. They also learned about the principles and use of spatial data for modeling site suitability for aquaculture using GIS. They understood the process of developing aquaculture zones from suitable sites for aquaculture and learned how to model the amount of fish production within designated and

suitable zones based on physical, ecological, social, and production factors.

The learning outcomes achieved during this FAO TRUEFISH training were essential for developing the capacity of national and regional concerned institutions and experts to undertake aquaculture spatial planning in Lake Victoria"

### **The second FAO TRUEFISH Regional Workshop on Aquatic Organisms Health (AOH)**

The second FAO TRUEFISH Regional Workshop on Aquatic Organisms Health (AOH) was conducted in Kisumu, Kenya, from February 20-22, 2023, with participation from officials of five national delegations, assisted by a team of FAO



*Visit to a Laboratory at KMFRI of Participants to FAO TRUEFISH Regional Workshop and Training on Health Management and Aquaculture Biodiversity from 20 to 22 February in Kisumu, Kenya*

international experts. The workshop focused on improving aquatic biosecurity for sustainable aquaculture production systems in the region, specifically through the development of a commonly agreed national strategy on aquatic biosecurity. The workshop used, for guiding discussions and agreements, the Progressive Management Pathway for

Improving Aquaculture Biosecurity (PMP/AB), which is a coordinated approach developed by FAO, for managing risks associated with fish diseases. The workshop included technical presentations delivered by FAO international experts, countries experts' presentations, which guided specific working group discussions, and exercises. The meeting resulted in several outcomes, including consolidation of the information provided by the five national surveys on Aquatic Organisms Health (AOH), a SWOT analysis of aquatic organism health and biosecurity per country, a consensual first LVFO Regional Strategy on Aquatic Organisms Health, a Regional Aquatic Pathogen List for Lake Victoria, an outline for a farmers and operators training course on biosecurity that the project will deliver shortly in collaboration with participating TVETs, and consensus on the contents of the upcoming capacity building at the regional level for biosecurity professionals. These outcomes demonstrate the commitment and progress of the participating countries to improving aquatic biosecurity in the region.

## **WORLD FISH**

Under the TRUEFISH project, WorldFish (WF) alongside FAO implements component 3: Sustainability, sustainable and bio-secure regional aquaculture production systems. Under this component, WF specifically implements the sub-component: Improved Protection of Biodiversity. Therefore, in the present TRUEFISH newsletter, WorldFish is delighted to report on the progress and anticipated pipeline project activities:-

- **Genetic Screening Research (GSR)**

GSR aims to map aquaculture and wild locations showing the distribution of native and exotic tilapiine genotypes. This is useful to assess the main risks to biodiversity that potentially arise from aquaculture practices and the measures which could be adopted to manage/mitigate the impacts thereby contributing to sustainability of the resources in the region. WF in close collaboration with the EAC national fisheries research institutes: NaFIRRI, KMFRI & TAFIRI, have successfully carried out field excursions and collected 2,370 tilapiine samples. Upon certifying the requirements of access benefit sharing (ABS) including the Nagoya protocols, all these samples have been shipped to Earlham Institute (EI), United Kingdom (UK) where subsequent analyses (genotyping) will be carried out.

- **Capacity building**

To ensure sustainability/continuity of genetics pertinent research in the EAC national fisheries research institutes, WF is in the last phases of carrying out capacity building of the three scientists effective June 2023 and scheduled at EI, UK. The scientists will be in UK for one

month mainly training in molecular genetics and bioinformatics. Additionally, WF has scheduled an international biosecurity study tour for six people from the EAC. The nominees will be effected by EAC and this will be gender based. This is also aims at enhancing biodiversity sustainability while propelling aquaculture productivity.

- **Gender studies**

WorldFish contracted a consultant to carry out gender studies in Lake Victoria basin. The study aims to support the TrueFish project implementers (WorldFish) to identify and recommend actions to ensure that the social dimension (gender) is reflected in the detailed planning. This study is fundamentally complete with some minor reviews and it will soon be available on the LVFO website.

## THE PROJECT COORDINATION

### THE AQUATIC RESOURCES AND BLUE ECONOMY CONFERENCE (ARBEC) CONFERENCE, 28<sup>TH</sup> NOVEMBER - 1<sup>ST</sup> DECEMBER 2022, KISUMU, KENYA

The Aquatic Resources and Blue Economy Conference (ARBEC), was held in Kisumu, Kenya, from 28<sup>th</sup> November - 1<sup>st</sup> December 2022. The 4-day conference themed *“Aquatic resources for a sustainable future and blue economy prosperity”* was presided by the Kenyan Cabinet Secretary for Mining and Blue Economy, Hon. Salim Mvurya, along with the former Principal Secretary, State Department for Fisheries, Aquaculture and Blue Economy, Dr. Francis Owino, the Chairman of the KMFRI Board of Management, Hon. John Safari Mumba, the Deputy Governor of Kisumu, H.E Dr. Mathews Ochieng Owili, and the Kisumu County Commissioner. The conference brought together

scientists, fisheries professionals, biodiversity experts, Limnologists, academia, government agencies, citizens, NGOs, the private sector, and the donor Community from around the world to share their experiences and lessons learned about how to use aquatic resources wisely for human sustenance, prosperity, and the blue economy connection. A total of 339 delegates from 20 countries globally participated in the Conference.

At the conclusion of the ARBEC, several initiatives to support the full realization of the blue economy were developed including but not limited to:-

- ✚ The necessity to accurately analyze and oversee the extraction and consumption of blue economy resources. Strong data collection is necessary for this, as is a deliberate attempt to use the data to inform decision-making.
- ✚ It is necessary to implement a stock rebuilding strategy (for Lake Victoria) that is economically effective, socially responsible, and environmentally advantageous. For greater effectiveness, such fisheries laws should be based on facts and non-conflicting goals.
- ✚ Adoption of the Ecosystem Approach to Aquaculture (EAA) to enable cage culture's sustainable use of water resources;
- ✚ Due to its effects on fisheries, ecosystem - biodiversity, and livelihoods, climate change poses severe issues, however the future of these resources is still unknown;
- ✚ Stopping illegal, unreported, and unregulated fishing is necessary;
- ✚ Leveraging on the demographic dividend as a necessity;



- ✚ Creating a Fish Aggregating Device (FAD) for artisanal fishermen;
- ✚ Prioritizing trade, post-harvest interventions, fish quality and safety;
- ✚ The need to exploit the potential of employing carbon sequestration as a strategy for conservation and restoration.

Along with the conference, a Blue Economy Exhibition and Information Center was opened to all stakeholders in the blue space. The Center serve as an Information, Education, and demonstration platform for government agencies, innovators, academia, entrepreneurs, and other stakeholders to showcase their activities. TRUEFISH took the opportunity to exhibit and create awareness of it activities to the conference participants.

### Mid Term Review Exercise

The Project is set to undergo a mid-term review (MTR) which will be carried out by an independent external party. The process of developing the Terms of Reference (TORs) and advertisement for the midterm review have been completed and DAI Global Austria GmbH & Co KG has been selected to conduct this assignment. The main objectives of this evaluation will serve to:-

- Provide an objective assessment of progress towards achievement of the outcomes and outputs as specified in the ME framework;
- Present lessons learned and best practices that may inform on-going activities and future Actions in the field of operations;
- Provide evidence-based, forward-looking, and actionable recommendations that aim at strengthening the project in the second

half of its implementation and increase the chances of achieving the programme's objectives and results.

### Technical Committee Meeting - 3 - 4 May 2023, Kisumu, Kenya

The project coordination Unit organized Technical Committee Meeting - 3 - 4 May 2023, and M&E Meeting - 5 - 6 May 2023 in Kisumu, Kenya. The main objective was to discuss implementation of project activities, monitor and evaluate the progress, preparation for Mid Term Review among other issues in preparation of Project Steering Committee meeting in June 2023. The meeting will be attended by National focal point persons from all the Participating Partner States, implementers, LVFO and EU Delegation Tanzania. The TC noted progress in the implementation of Component of the project and recommended:

- *The TC advised FAO and WorldFish to harmonize their activities and synchronize study tours for ease of implementation;*
- *The Committee recommended the PSC interact with institutions involved in the implementation of activities to prepare realistic budgets;*
- *All implementers are to plan and participate in aquaculture conferences organized by the project and present their results;*
- *All implementers to prepare and submit no cost extension to cover remaining activities;*



*Technical Committee and M&E Meetings from 3 - 6 May 2023 in Kisumu, Kenya.*

to 21<sup>st</sup> April 2023 in Uganda where the progress of TRUEFISH Project was presented to the Ministers.

### UPCOMING EVENTS

- ✓ *The Project Steering Committee will be held from 21 - 22 June 2023 in Dar es Salaam, Tanzania;*
  - ✓ *The next TC meeting is scheduled to take place on 29<sup>th</sup> September 2023.*
  - ✓ *Mid Term Review – beginning of July.*
- ✓ Lake Victoria Fisheries Organization organized a Fisheries and Aquaculture Sectoral Council of Ministers from 17<sup>th</sup>

**Lake Victoria Fisheries Organization Secretariat**  
Plot 7B/7E - Bell Avenue  
P.O. Box 1625, Jinja - Uganda  
Telephone: +256 434 125 000  
Email: [lvfo-sec@lvfo.org](mailto:lvfo-sec@lvfo.org)