

TILAPIA
CENTRE OF EXCELLENCE

FROM LAKE KARIBA, FOR ZAMBIA

Healthier fish. Better seed. Sharper people.

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On the water with the Department of Fisheries at a smallholder cage cluster, Siavonga

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One year on the shores of Lake Kariba

Our first issue reports on three things we set out to fix: weak seed, unchecked disease and too few trained hands. Here is where each one stands, and the people and partners making it happen.

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The TCoE board and partners at NARDC, Mwekera

WHO WE ARE

Kariba roots, Norwegian backing

A company based in Siavonga, built by people of the lake, with a board drawn from the top of Norwegian aquaculture through Anchor Foundations STI, our Norwegian co-shareholder.

BOARD

Aino Olaisen

Board Chair

Board member of Mowi ASA, the world's largest salmon company. Chair of Nova Sea AS and of Anchor Foundations STI, Norway. Former General Manager, Helgelandstorsk and Vigner Olaisen AS, and Head of Biology, Nova Sea. Member of Norwegian government NOU committees on aquaculture policy. Fishery Science (UiT), finance (BI Norwegian Business School), innovation (INSEAD).

Odd Lorentz Strøm

Board Vice Chair

Thirty years at the top of Norwegian aquaculture. CEO of Nova Sea AS from 2009 to 2020 and of Salten Aqua AS. Investment advisor, SNN Invest. Sales and Marketing Director, Follalaks AS. Degree in Fisheries Economics, Nord University, Bodø. Board member across the Norwegian seafood sector.

EXECUTIVE TEAM

Permit Shava

Chief Executive Officer

Fourteen years across the Nile tilapia value chain in Zambia, Zimbabwe, Malawi and Mozambique. Former General Manager, Lake Harvest, Southern Africa's pioneering tilapia cage operation on Lake Kariba. Led EU-funded smallholder integration programmes for 200+ farmers; contributor to Zambia, Zimbabwe, FAO and SADC frameworks. PhD candidate, aquatic animal health, UNZA; MSc Sustainable Aquaculture, University of St Andrews.

Lazarus Tsokonombe

Senior Aquaculture Operations Trainer

Leads hands-on hatchery and grow-out training for farmers, government officers and TCoE Academy learners, and field delivery of the Master Trainer course.

ON THE ROAD

The Board comes to Zambia

In October, our Board Chair Aino Olaisen and Vice Chair Odd Strøm joined Permit Shava on visits to the Centre's research and training partners. First stop, the Copperbelt University, our newest MOU partner, and the National Aquaculture Research and Development Centre at Mwekera, where Zambia's public fish seed is bred. They then visited the lecture rooms and laboratories of the University of Zambia School of Veterinary Medicine, home of the biobank and our vaccine work.



With the School of Veterinary Medicine team, University of Zambia, Lusaka

Why it matters. Vaccines, surveillance and training all run through these three institutions. The Board saw the people and the benches, not just the plans.





SIAVONGA SMALLHOLDER CLUSTERS

Where the farmers are

The week ended on the water. With the Department of Fisheries, the Board visited smallholder cage clusters on Lake Kariba near Siavonga: small groups of farmers running a handful of cages each, the people the Academy and the new seed are for.



Department of Fisheries officers and farmers on the lake

What we saw

Good water, keen farmers, cages of mixed quality and fingerlings of unknown origin.

What we will do

Hands-on training from November, improved seed from 2027, and a disease surveillance net that reaches every cluster.

FISH HEALTH

One lake. One outbreak away. One biobank.



Main collection at UNZA School of Veterinary Medicine. Backup archives at partner laboratories.

Almost all of Zambia's cage fish grow in one lake. A disease outbreak there is a national problem. You cannot fight a pathogen you have never isolated. So, with the University of Zambia and national laboratories, we are building Zambia's first tilapia pathogen biobank.

- Built to ISO 20387, the international biobanking standard
- Quality manual, governance pack, 18 SOPs and 23 forms done, October 2026
- Bacteria first. Viruses and parasites next.

Next stop: a Zambian vaccine. The biobank feeds our vaccine programme with UNZA, CBU and the Norwegian University of Life Sciences. We follow the Norwegian salmon playbook: one pathogen at a time, fully understood, before anything is combined. Pre-work started at UNZA in September 2026.

FISH SEED

World-class genetics, grown in Siavonga



The project

Improved Nile tilapia from GenoMar Genetics, Norway, multiplied in a biosecure hatchery in Siavonga District. Improved fry for Lake Kariba farmers from 2027, subject to regulatory approval.

genomar.com

THE EVIDENCE

30+ generations of selection

GenoMar's strain descends from the GIFT programme (1988 to 1997). Family selection since 1991, genomic selection since 2019, a second nucleus in Brazil since 2022.

Source: GenoMar, Our history

Growth doubles in about six generations

Selective breeding in fish delivers an average 13 percent gain in growth per generation, so growth potential doubles in about six generations. Demonstrated in Nile tilapia.

Source: Gjedrem and Rye, Reviews in Aquaculture 10:168 to 179

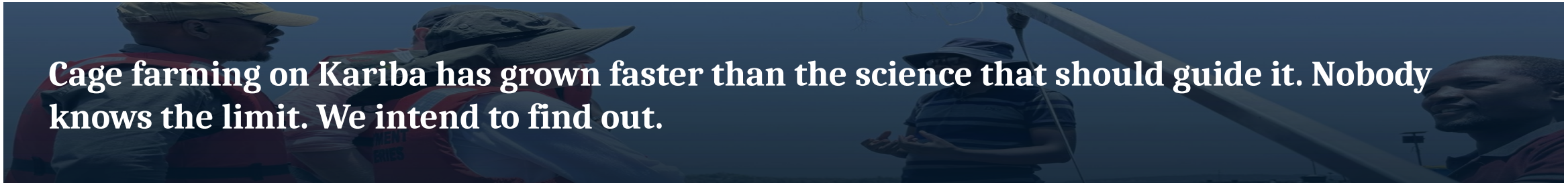
Clean, certified source stock

GenoMar's Philippine nucleus received the first Specific Pathogen Free certification for tilapia in 2022. Streptococcosis resistance has been a breeding goal since 2016.

Source: GenoMar, Our history

POLICY AND ADVISORY

How many cages can Kariba take?



Cage farming on Kariba has grown faster than the science that should guide it. Nobody knows the limit. We intend to find out.

Carrying capacity assessment

With Longline Environment, the UK modelling firm behind the Zambia Aquaculture Atlas, we have put a full carrying capacity assessment of Zambia's Kariba waters to the Director of Fisheries. It sets evidence based limits on cage numbers and siting and trains government officers to run the models. An anchor contribution is indicated; the balance is being sought.

National cage culture guidelines

We reviewed the final draft of Zambia's cage culture guidelines for the Department of Fisheries: 58 proposals on fallowing, disease, carrying capacity and escape planning. Permit Shava opened the national review workshop at the government's invitation. All under our MOU with the Ministry, signed July 2026.

READ MORE

Zambia Aquaculture Atlas (zam.blue), spatial data platform for the Government of Zambia with the World Bank Group, by Longline Environment

Mapping Zambia Aquaculture Suitability Zones, World Bank story map with suitable areas on Lake Kariba, 2026

te Velde et al. 2022, Aquaculture carrying capacity of Nile tilapia and Nile crocodile in Lake Kariba, Aquaculture Environment Interactions 14:113 to 125

Ferreira 2025, AQRATE: an integrated model for quantifying aquaculture carrying capacity, Aquaculture Europe 2025

PEOPLE

The TCoE Academy is open for business

Good seed and healthy fish still fail in untrained hands. The Academy is our answer: five learner streams, one standard, taught on the water and online.

Free tool for farmers: the **Smallholder Farmer Toolkit** plans a tilapia cycle in minutes.



Farmers and officers on the lake near Siavonga, where hands-on courses start in November

Blue Planet pilot: live

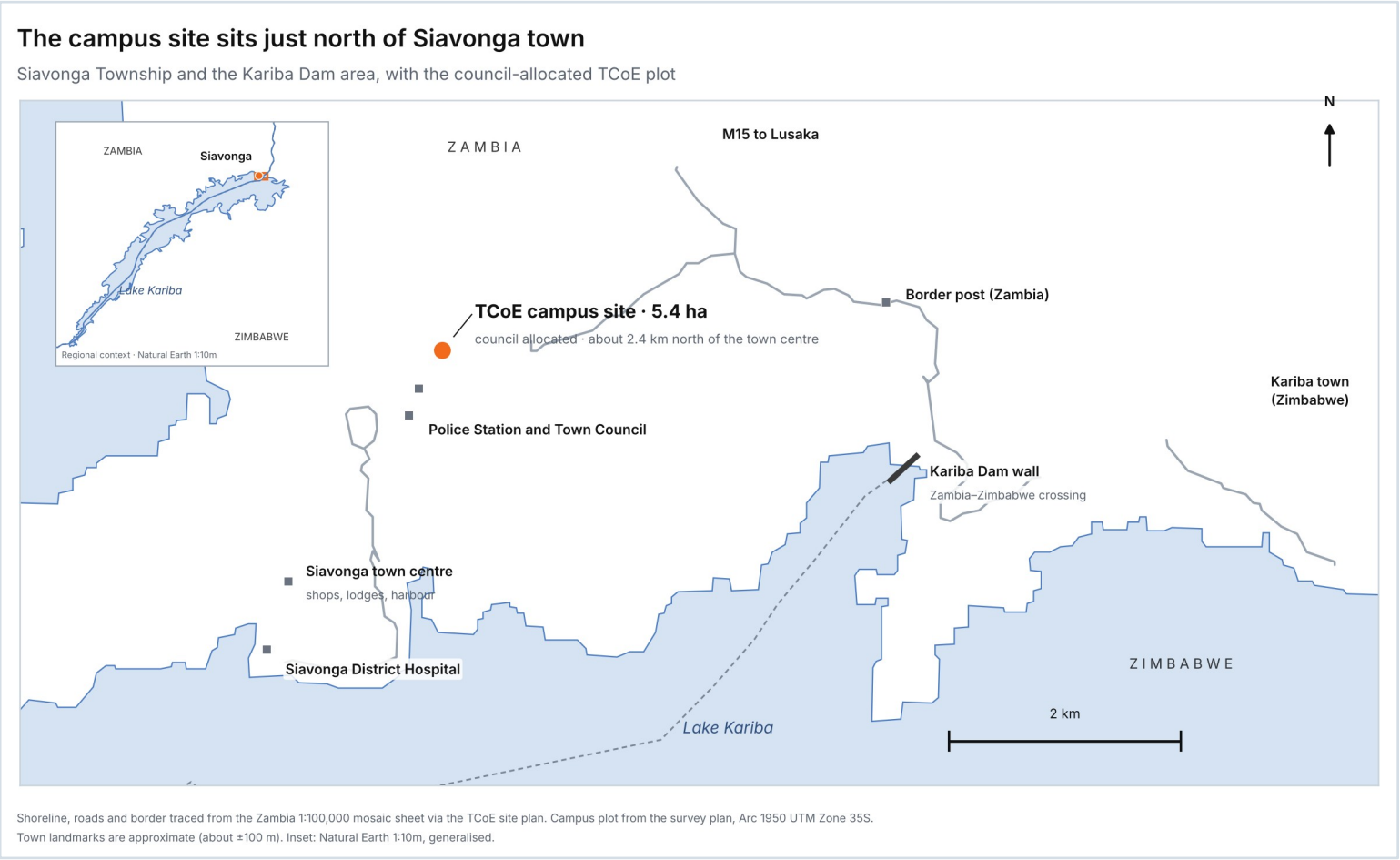
Smallholders learning online with Blue Planet Academy of Norway, between field sessions, on their phones.

Train the Trainer

Five-day Master Trainer course, six modules, turns officers into trainers of farmers. Led by Lazarus Tsokonombe.

Smallholder certificate ladder	Online pilot live · hands-on from Nov
Government capacity building	Train the Trainer ready
Professional CPD	Courses designed
Postgraduate diploma	In design
Vocational apprenticeship	In design

Where the campus will be



The land

Siavonga Town Council has allocated approximately 5.4 hectares in Siavonga Township for the TCoE Living Aquaculture Campus: about 2.4 km north of the town centre, between a stream and the road reserve, and under 4 km in a straight line from the Kariba Dam.

The design

Campus design is in progress. The brief: a building in stone, steel and wood that sits lightly in the terrain, with big windows, housing the Academy, a demonstration hatchery, laboratories and trainee accommodation.

Watch this space

- First hands-on smallholder courses, from November 2026
- Partner laboratories assessed for biobank hosting
- Ministry decision on the carrying capacity financing route
- Campus concept design, next round

GET IN TOUCH

Farm with us. Research with us. Back Zambian aquaculture.

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CENTRE OF EXCELLENCE

pshava@tilapiacentreofexcellence.com

+260 96 270 3870

tilapiacentreofexcellence.com

Tilapia Centre of Excellence Ltd, Siavonga, Lake Kariba, Zambia

Permit Shava, Chief Executive Officer

FREE TOOL

Smallholder Farmer Toolkit

Plan your next tilapia cycle in minutes.

tilapiacentreofexcellence.com/smallholder-farmer-toolkit