vision 3F

EVERY FISH SHOULD (BE) COUNT (ED)

With less than six years to 2030, the world is not on track to end hunger and malnutrition and achieve the **Sustainability Development Goals.**

We take a closer look how fisheries and land-based aquaculture contribute to most SDGs.[1]

VISION3F IS A BELGIAN AGRI-TECH COMPANY

Developing V-Tag. A disruptive and innovative technology to monitor and control livestock. Starting Atlantic Salmon farming.

Answering the increased need for healthy protein to feed the world after 2030 by more and sustainable fish production.

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Context

It is projected that the global population will reach 9.6 billion by 2050, leading to a surge in demand for food, particularly protein, even before 2030. Fish is expected to be a key source of protein, highlighting the crucial role of land-based Recirculating Aquaculture Systems (RAS) in facilitating sustainable fish production.

Rising Need

Significant investments will be necessary in the aquaculture industry to meet the fast-growing demand for fish and seafood driven by population growth.

The World Fish Center[2], an organization advocating for sustainable aquaculture to alleviate poverty and hunger, states that **one billion people in developing nations already rely on fish protein consumption**, of which 800 million depend on fishing and aquaculture for their livelihoods.

Several reports underscore the very low environmental impact of aquaculture compared to other food production sectors, such as meat or poultry production. Notably, aquaculture utilizes only 2% of global water resources and 1% of agricultural land. Moreover, **RAS aquaculture systems offer significant advantages** in water consumption, with usage being 90 to 99% lower compared to traditional systems.

In recent decades, significant strides have been made in addressing sustainability challenges, particularly in the realms of food production and waste management. Notably, the aquaculture sector stands out as a prime example where sustainability directly correlates with enhanced economic viability.

Aquaculture contributes to the Sustainable Development Goals for improved human and planetary health

A recent study from the UN shows that aquaculture can improve food security and nutrition by increasing the amount of seafood available for people to eat. If done correctly, aquaculture increases food production, boosts economic growth in coastal and rural areas, and can help keep waterways clean.[3] The diverse aquaculture sector makes important contributions toward achieving the Sustainable Development Goals (SDGs)/Agenda 2030 and can increasingly do so in the future.

Aquaculture offers many environmental benefits, compared to other forms of livestock farming. Marine aquaculture operations typically have a smaller carbon footprint and require less land and fresh water. They are more efficient at converting feed into protein for human consumption than beef, pork, and poultry with respectively 1,2 kg feed/kg protein compared to respectively 8, 6 and 2.

The expansion of sustainable aquaculture is vital to increasing food production in a changing environment.

Especially RAS farms align with ESG goals

Land-based RAS fish farms are considered environmentally, socially, and governance-friendly due to their sustainable and responsible approach to fish farming.

Significantly **reduces water consumption** and waste discharge compared to traditional sea-based farms.

Need a minimal use of land area: 10 kTLW/ 5 ha compared to 2,2 cattle/ha.

Designed to **minimize the use of chemicals and antibiotics**, as well as the risk of disease outbreaks.

RAS fish farms prioritize fish welfare through the use of advanced technology to maintain water movement, quality, temperature, and oxygen levels.

RAS farms also have a **positive impact** on local communities by creating employment opportunities and supporting economic development.

V-Tag from Vision 3F boosts ESG excellence

THE CHALLENGE

Still, today RAS farms suffer from a lack of precise and real-time data leading to the loss of over 2 billion EUR worth of Atlantic Salmon every year.

This 20 % mortality rate results in 11% revenue loss, 8% farming capacity loss and 1MT excessive CO2.[4]

Mortality rate
20%

Amount of Salmon
$2B loss

Revenue loss
-11%

Farming capacity
-8%

THE SOLUTION

V-Tag significantly improves farming performance and contributes to achieving sustainability KPI's. By early elimination of fish with anomalies, early treatment of disease and infestation without causing injury and stress, **V-Tag results in a 40% lower mortality rate.**[5]

Due to production steering and predictive production management-based AI-analyses, farming performance improves with 15% resulting in 27% EBIT increase and 10% lower environmental costs.[6]

Mortality rate
-40%

Farming performance
+15%

EBIT increase
+27%

Environmental cost
-10%

The in-situ monitoring and AI-analyses provide necessary data for sustainability reporting and meeting the taxonomy standards from the CSRD.

Using V-Tag in particularly contributes to the following Sustainable Development Goals:

Zero Hunger
Providing food and humanitarian relief, establishing sustainable food production.

Decent Work and Economic Growth
Creating jobs for all to improve living standards, providing sustainable economic.

Responsible Consumption and Production
Reversing current consumption trends and promoting a more sustainable future.

Industry, Innovation and Infrastructure
Generating employment and income through innovation.

Climate Action
Regulating and reducing emissions and promoting renewable energy.

Life Below Water
Conservation, promoting marine diversity and regulating fishing practices

Conclusion

As a necessary tool to enhance the performance of Recirculating Aquaculture Systems and obtain their ESG excellence levels, **V-Tag from Vision3F significantly contributes to meeting the increased need for more, healthy, and sustainable proteins and improving fish welfare.**

V-tag from Vision3F provides the necessary intel to allow efficient, low-footprint fish farming with an explicit focus on fish welfare and a stress-free impact.

Sources:

1. M. Troeell, B. Costa – Pierce, S. Stead, R. S. Cotrell, a.o. , *Perspectives on aquaculture's contribution to the Sustainable Development Goals for improved human and planetary health*, 10 May 2023 First published: 10 May 2023, Perspectives on aquaculture's contribution to the Sustainable Development Goals for improved human and planetary health (wiley.com)

2. WorldFish | Aquatic Foods for Healthy People and Planet (worldfishcenter.org)

3. Aquaculture has improved food security, says UN (fishfarmingexpert.com)

4. Just Economics, *Dead Loss: The high cost of poor farming practices and mortalities on salmon farms*, February 2021, Aquaculture-Report-v5.pdf (justeconomics.co.uk)

5. Based on discussions with Nofima (Norwegian reference institute …)

6. Deducted from feed, energy, chemicals and water consumption reduction by 40% mortality reduction

Learn more about V-Tag on our website

www.vision3f.com/vtag

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