

THE POTENTIAL CONTRIBUTION OF THE HUNGARIAN AQUACULTURE SECTOR TO THE SUSTAINABLE DEVELOPMENT GOALS TODAY

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2030 Agenda document

- ▶ 2015 United Nations: adoption of a sustainable development agenda - Agenda 2030
- ▶ 17 Sustainable Development Goals, SD  a more equitable, sustainable future

- ▶ Goals:

- ▶ eradicate poverty and hunger
- ▶ improve health and nutrition
- ▶ reduce inequalities
- ▶ creating peaceful, just and inclusive societies



- ▶ World population reach 9.7 billion by 2050
- ▶ Global demand for animal protein could increase by up to 88% (Cottrell et al., 2018; Searchinger et al., 2018)
- ▶ Greatest challenge : ensuring a healthy and sustainable diet for the population



The food system is linked to the SDGs in several ways

17 Sustainable Development Goals

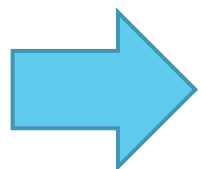
SUSTAINABLE DEVELOPMENT GOALS



- 1 - No Poverty
- 2 - Zero Hunger
- 3 - Good Health And Well-being
- 4 - Quality Education
- 5 - Gender Equality
- 6 - Clean Water And Sanitation
- 7 - Affordable And Clean Energy
- 8 - Decent Work And Economic Growth
- 9 - Industry, Innovation And Infrastructure
- 10 - Reduced Inequalities
- 11 - Sustainable Cities And Communities
- 12 - Responsible Consumption And Production
- 13 - Climate Action
- 14 - Life Below Water
- 15 - Life On Land
- 16 - Peace, Justice And Strong Institutions
- 17 - Partnership For The Goals

Activities of Food economy

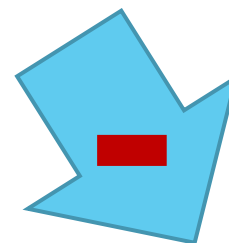
- ▶ raw material consumption,
- ▶ production processes,
- ▶ commercial,
- ▶ logistic and
- ▶ storage



Environmental and social consequences



- Feeding humanity
- Livelihoods for people working in the sector



- Soil degradation
- Periodic droughts
- Pollution
- Loss of biodiversity
- Overfishing
- Water shortage (75%)
- Greenhouse gas emissions (25%)



THE EARTH'S LIFE-SUPPORT POTENTIAL IS REDUCED, AND THREATEN HUMAN WELL-BEING

Importance of the aquaculture sector

- ▶ The importance of the aquaculture sector is **increasingly emphasised in many countries** (coastal or freshwater ecosystems)
- ▶ Today, agriculture, including animal husbandry, still dominates global food systems, but **food from aquatic ecosystems is slowly build-in into the food system.**
- ▶ There is a need to **focus on aquatic ecosystem products**, for which the **restoration of fish populations/stocks** and the **enhancement of sustainable aquaculture development** are essential.



UN 2021: "Transforming food systems cannot be achieved without food produced in aquaculture" (Troell et al., 2023)



Animal and plant organisms caught or farmed in aquatic ecosystems

- ▶ play an important role in **food security** and **nutrition**, help in **livelihoods**, **economies** and **cultures** worldwide
- ▶ 1961 - 9.0 kg per capita consumption of food from aquatic sources, rising to 20.2 kg by 2020
- ▶ provides about 17% of the animal protein consumed worldwide (FAO 2022)

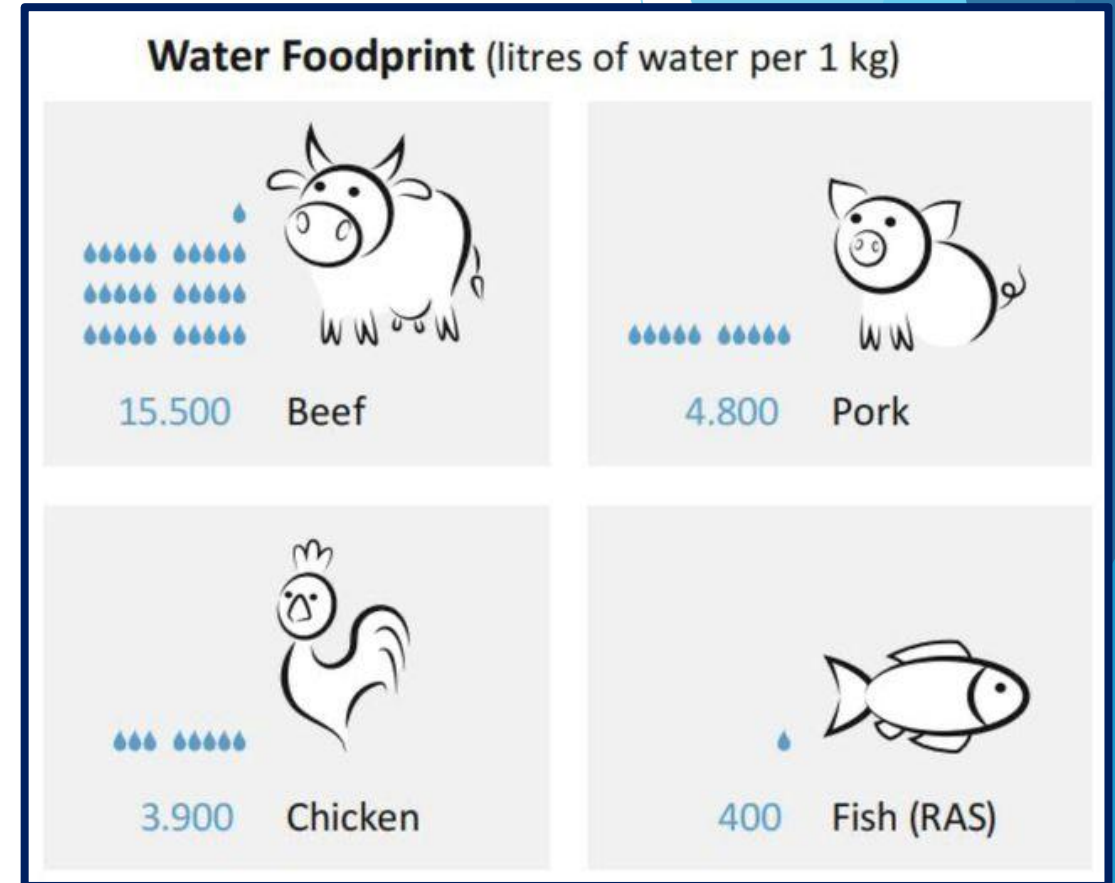
The 2030 Agenda is a challenge,

- ▶ use of innovations
- ▶ requires cooperation and
- ▶ coordinated strategies at planning and decision-making level

Aquaculture may be well placed to be part of the solution, but its contribution to achieving the SDGs depends on governance and decision-makers

Aquaculture sector opportunities and impacts

- ▶ It offers the potential to achieve most of the SDGs but is influenced by many factors.
- ▶ In different situations, different types of aquaculture systems achieve different results and contribute to the SDGs.
- ▶ Some aquaculture systems have a relatively low environmental footprint.



Source: KSU Aquaculture Research Center, 2021

Material and method

- ▶ the aquaculture sector aspect of the topic under discussion is still at an early stage.
- ▶ in the near future, alignment with the SDGs will fundamentally determine the future opportunities and achievements of the sector.
- ▶ Summary of sustainable agriculture goals set by FAO (2018), which also apply to the aquaculture sector:
 - ▶ contributing to the security of food supply;
 - ▶ employment and income generation in rural regions,
 - ▶ focus on poverty reduction;
 - ▶ conservation of natural resources,
 - ▶ protection of the environment.

17 Sustainable Development Goals focused on 5 main areas (5 P)

- ▶ people
- ▶ planet
- ▶ prosperity
- ▶ peace
- ▶ partnership



Perspectives for the contribution of the aquaculture sector

- ▶ the aquaculture sector contributes to all 17 SDGs, but the display of the sector **is not relevant**, as: 'agriculture (and fisheries) is explicitly mentioned in the statement on poverty, food security, production, employment and economic growth, but **aquaculture is not mentioned...**
- ▶ ... despite the fact that world aquaculture production overtook fisheries production in 2012 and it is the fastest growing food sector globally

Source: Troell et al., 2023

The contribution of the aquaculture sector to SDGs is defined at four levels


- ▶ Direct: 2, 3,
- ▶ Indirect: 6, 12, 13, 14, 15,
- ▶ Associated: 1, 5, 8, 10,
- ▶ Related: 7, 9, 11, 17

Not included:

- ▶ Education (4)
- ▶ Peace (16)



Results and conclusions

- ▶ Aquaculture is a crucial sector that contributes to human well-being, but **a thoughtful and objective data collection methodology and analysis needs to be developed** to enable the sector to play a greater role in efforts to achieve the SDGs.
- ▶ **Recognition of the current and future potential role of aquaculture** will **improve understanding of its potential** to contribute positively to a number of SDGs and influence the effectiveness and impact of regulatory policies.
- ▶ The existing national and regional (EU level) institutional framework **should develop a monitoring strategy** to clarify the contribution of the aquaculture sector to the indicators of the various SDGs and to **compare the impacts of aquaculture with other food production systems and livelihoods**.
- ▶ A wider view of the value chain  gain deeper insight into
 - ▶ the contribution of aquaculture to sustainable development goals
 - ▶ understanding the results of investments and renovations

Results and conclusions

Integration of freshwater and marine aquaculture should be further explored

- ▶ with emerging renewable energy systems,
- ▶ with existing agricultural production
- ▶ and with other economic sectors (e.g. tourism)



to **develop coherent strategies with common objectives**

Results and conclusions

Applying the SDGs approach contributes to:

- ▶ socio-ecological acceptance
- ▶ food distribution
- ▶ and a deeper understanding of the outcomes of food access,



improve self-regulating operations.



- ▶ **IMPORTANT!** consumers understand the role of aquaculture

New, evidence-based narratives are needed to help overcome the negative image of the sector that influences political will.

Summary

- ▶ The aquaculture sector **has huge potential** to make a positive contribution to the well-being of humanity and our planet. The prerequisite for this is: **align current and expected results with sustainable development goals**.
- ▶ The aquaculture sector **already contributes to many SDGs**, but the various outcomes of the SDGs are not fully visible.
- ▶ The contribution to the different SDGs will **depend to a large extent on how and by what methods the indicators representing the sector are defined** and how they can be integrated into the system used to interpret the SDGs.
- ▶ **Already has started:** - a conscious assessment of specific production sectors in the aquaculture sector
- assessing alignment with the SDGs
/Several methodological approaches have been published and are expected to increase in the near future/

We believe that the Hungarian aquaculture sector should also take action



thereby creating a methodological basis at national level, which can be **integrated into national plans and strategies**

THANK YOU FOR YOUR KIND ATTENTION!