

Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic Ocean



How aquaculture furthers the SDGs



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ATLAFCO Secretariat

Harvesting today without compromising tomorrow ...

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Context



- ❑ As the planet will host 2 billion more people by 2050, *food security challenges will prove to be significant*
- ❑ Meanwhile, the global seafood catch *is stagnating and most fish stocks have already been overexploited*
- ❑ More than 1/2 of the current seafood consumption currently comes from aquaculture

Maria Darias, an aquaculture specialist at IRD, leads the IRD-funded AfriMAQUA research network on aquaculture:

- *Africa has the most rapidly increasing population in the world*
- *Most fish stocks around the continent are fully or over-exploited*
- *To ensure food and nutrition security, there is an urgent need for Africa to increase its aquaculture production capacity"*



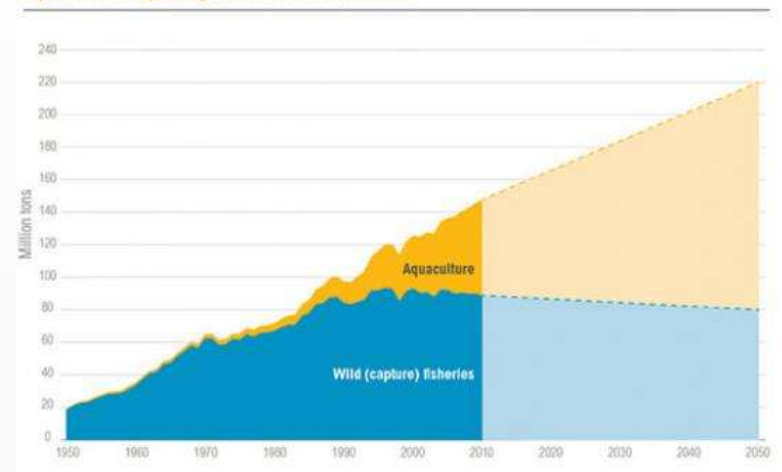


Introduction



- ❑ *Aquaculture in Africa has so far has seen limited success*
- ❑ Even so, international donors and aid agencies continue to fund the nascent industry
- ❑ The sector is attractive because of its potential to contribute to *increased food production in emerging economies* while *reducing the pressure on wild fisheries*
- ❑ Aquaculture is the fastest-growing food production sector globally
- ❑ The United Nations Millennium Development Goals (MDGs) targeted:
 - ❑ Eradication of extreme poverty and hunger
 - ❑ Improvements in child mortality,
 - ❑ Improvement in maternal health
 - ❑ Disease prevention,
 - ❑ Promotion of gender equity
 - ❑ Empowerment of women
- ❑ **Aquaculture in Africa can complement other efforts aimed at moving the continent towards these goals**

Aquaculture is Expanding to Meet World Fish Demand





The formulation of sustainable development goals



- ❑ One of the key commitments agreed upon at the 2012 United Nations Conference on Sustainable Development (Rio+20) was the formulation of sustainable development goals
- ❑ Sustainable development encompasses the interlinkages of the three dimensions of
 - ❑ **Economic growth,**
 - ❑ **Social development**
 - ❑ **Environmental sustainability**
- ❑ As global demand for protein increases, aquaculture is playing a growing role in feeding the population, but *is aquaculture sustainable and can it be used to address the SDGs?*





Sustainable Development Goals (SDGs)



- ❑ On 25 September 2015, countries adopted a set of 17 Sustainable Development Goals (SDGs) with specific targets to be achieved over the next 15 years
- ❑ While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the SDGs through recurrent national and sectoral development planning





How can we achieve zero hunger by 2030?

In September 2015, the 193 UN Member States commit to 17 SDGs, including **ZERO HUNGER BY 2030**



BY THE YEAR 2030 WORLD POPULATION IS PROJECTED TO GROW TO AROUND

8.3 billion



DEMAND FOR FOOD WILL GROW

Increase investment in agriculture. Build market infrastructure and improve public goods to help raise productivity and rural incomes.

SDGs **1 2 9 10**



Sustainably manage forests, oceans, water, land and soil – and promote an ecosystem approach to extract greater agricultural yield with fewer inputs.

SDGs **2 5 13 14 15**



OVER 820 MILLION PEOPLE ARE GOING HUNGRY



Promote nutrition policies, including dietary education, and shift to consumption and production approaches that promote biodiversity and long-term health benefits.

SDGs **2 3**



Establish social protection systems to improve food access, such as school food and cash transfers. Without nourishment, humans cannot learn, or lead healthy and productive lives.

SDGs **1 2 3 4 8 10**



↑ RISING FOOD DEMAND IS

INCREASING COMPETITION FOR NATURAL RESOURCES



MALNUTRITION AFFECTS 1 IN 3 PEOPLE AND ALL NATIONS

↑ OVERWEIGHT AND OBESITY IS RISING

Improve the way food commodity markets function, and limit extreme food price volatility.

SDGs **2 7 12 17**



Make food systems more efficient, inclusive and resilient.

SDGs **2 7 12 17**



A LARGE SHARE OF FOOD PRODUCED IS LOST OR WASTED



↑ ALMOST

4 IN 5 POOR PEOPLE LIVE IN RURAL AREAS

Develop pro-poor growth strategies in rural areas, focusing on small-scale farmers and the people left furthest behind.

SDGs **1 2 8 9 10**



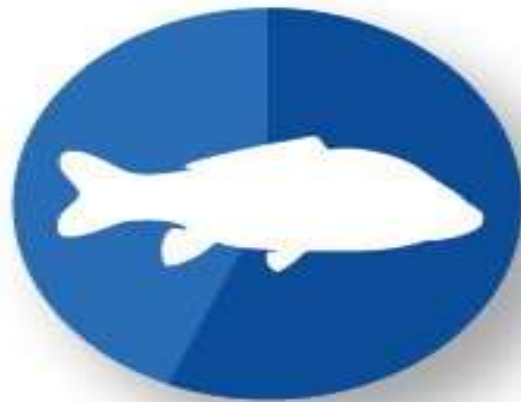


Why consider aquaculture Intervention in SDGs ?



AQUACULTURE IS THE FUTURE OF FOOD

By 2030, nearly two-thirds of all seafood produced for human consumption will come from aquaculture [World Bank].





How aquaculture contribute to achieve SDGs?



- ❑ Sustainable aquaculture has the potential to contribute significantly to 'Oceans/blue economy' by promoting **the socio-economic development of coastal populations**
 - ❑ *It can increase supply to meet the demand*
 - ❑ *stabilize fish prices, in particular during the periods of price hikes of other food commodities*
- ❑ This requires the use of **best aquaculture practices** with **minimal environmental impacts** on coastal ecosystems
- ❑ However, the varied nature of ownership and business models in different forms of aquaculture can have a major influence on **which goals might be achieved**

Substantial contribution achieving SDGs at both national and regional levels



How aquaculture can help achieve the SDGs

-  It provides employment in coastal areas, supporting communities
-  Sustainable fish farming can help feed the world's fast growing population
-  Aquaculture avoids overfishing of our oceans

animalhealthurope.eu 



Relevance of SDGs to aquaculture development



Sustainable Development Goals	Relevance to aquaculture
1 End poverty in all its forms everywhere	**
2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture	***
3 Ensure healthy lives and promote wellbeing for all at all ages	*
4 Ensure inclusive and quality education for all and promote lifelong learning	*
5 Achieve gender equality and empower women and girls	**
6 Ensure availability and sustainable management of water and sanitation for all	**
7 Ensure access to affordable, reliable, sustainable and modern energy for all	**
8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	***
9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	**
10 Reduce inequality within and among countries	*
11 Make cities and human settlements inclusive, safe, resilient and sustainable	*
12 Ensure sustainable consumption and production patterns	***
13 Take urgent action to combat climate change and its impacts	**
14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development	***
15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	**
16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	*
17 Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	**



Relevance of SDGs to aquaculture development



- 1 (end poverty)
- 2 (end hunger)
- 8 (growth, employment)
- 12 (sustainable production and consumption)
- 13 (climate change)
- 14 (conservation and sustainable use of marine resources)
increase economic benefits from sustainable management of fisheries and aquaculture

Are all highly relevant to aquaculture development but all the goals are relevant in one way or another and should be taken into account in promoting sustainable aquaculture development

The nature and extent of aquaculture development should be influenced strongly by the SDGs; equally, aquaculture, when developed appropriately

can contribute significantly to the achievement of many SDGs





Aquaculture Influence on SDGs

Aquaculture type	Sustainable Development Goal				
	SDG 1 No poverty	SDG 2 Zero hunger	SDG 5 Gender equality	SDG 8 Decent work and economic growth	SDGs 12, 13, 14 & 15 Environmental sustainability
Subsistence aquaculture	* Less family expenditure on food	*** Major household protein source	*** Equal opportunities at family level	** Valued work, but limited impact	*** Low impact, integrated development
Small-scale commercial aquaculture	** Generates some income	*** Sales at family and local levels	*** Equal opportunities at	** Some local economic impact	*** Low impact, integrated development
SME aquaculture	*** Generates significant income	** Sales at local level	** Opportunities skewed towards males	*** Dynamic and progressive culture	** Can have cumulative impacts Low impact, integrated development
Industrial aquaculture	* Efficient and increasingly automated	* Most produce high value	* Opportunities skewed towards males	** Long value chain, foreign	** Can have impacts



Can aquaculture help to achieve the Sustainable Development Goals (SDGs)?



- 1 -

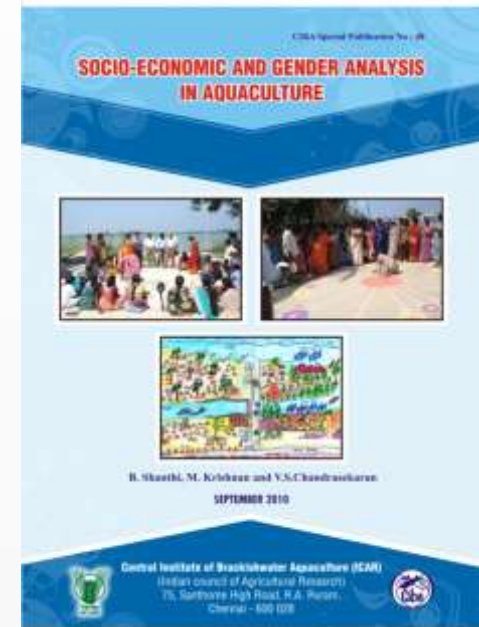
- ❑ Aquaculture has a key role to play in helping to achieve several of the UN's SDGs by 2030.
- ❑ The 17 goals have been created to end poverty, overcome inequality, and address climate change
- ❑ 5 examples of how the SDGs relate to aquaculture

- ❑ DG Goal #1 No Poverty

Aquaculture provides a significant socioeconomic contribution in coastal and rural communities which can play a role in **reducing poverty**

- ❑ SDG Goal #2 Zero Hunger

- As one of the world's fastest growing food sectors, sustainable aquaculture is vital for **achieving food security**
- Globally, aquaculture produced 82.1 million tons of aquatic animals in 2018, and wild fisheries produced 97 million tons **But the value of farmed fish was higher**; it was around \$250 billion compared with \$151 billion for wild-caught fish.
- The production of animals through aquaculture is projected to increase by one-third by 2030 and will supply most of the aquatic protein in people's diets by 2050 (1,6,8). This will help feed local populations as well as meet global seafood demands, **providing accessible, affordable food for all**





Can aquaculture help to achieve the Sustainable Development Goals (SDGs)?



- 2 -

❑ SDG Goal #3 Promoting health and wellbeing

- This goal stresses the importance of ensuring healthy lives and wellbeing for all. **Consumption of fish and shellfish is associated with many health benefits.**
- Rich source of protein containing **all essential amino acids** in addition to **essential fats** including omega-3 fatty acids, vitamins and minerals.



❑ SDG Goal #13: Climate change

- Aquaculture offers an opportunity to **reduce carbon emissions that contribute to climate change**
- Through water sequestration - *the natural carbon capture by water and aquatic plants* - aquaculture can contribute to reducing the amount of carbon dioxide in the atmosphere, **helping to address climate change**



❑ SDG Goal #14: Life below water

- Developments in sustainable aquaculture technology using closed systems are enabling land-based production of seafood that eases the pressure on oceans.
- Increased on-land production of fish will enable the replenishment of currently depleting fish populations, as well as their ecosystems
- Fish farms can also be considered more ecologically responsible than traditional fishing methods.
- Aquaculture is not a threat to non-target fish species, unlike standard fishing procedures, where one in 10 fish caught is the wrong type of fish, known as bycatch





How to reach a full contribution in SDGs?



- ❑ Aquaculture has emerged **as the main driver** of blue growth and a key component of **food security** which is central to **SDGs**
- ❑ Aquaculture faces challenges that need to be addressed by **solution oriented research, innovative approach** and **integrated efforts**
- ❑ **Growth trajectory** of aquaculture should be shaped by giving attention to **ecological, social and economic pillars of SD**
- ❑ **The transformative pathways optimism** identified for modern aquaculture hold out optimism in the potential of this sector for **meeting the expected outcomes**



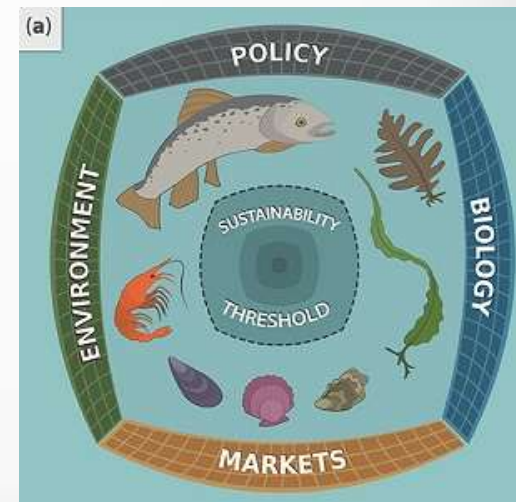


Conclusion

- ❑ Aquaculture is the fastest growing food production system in the world
- ❑ Generating more than half of the global seafood harvested today
- ❑ Crucial to provide key nutritional components for humanity in the future as populations worldwide are increasing and the demands for securing food resources are imperative
- ❑ Multiple socio-ecological factors such as:
 - ❑ weak regulations
 - ❑ focus on maximizing production
- **limit production**
- **threaten the sustainable growth of aquaculture**

Policy framework *to evaluate and pursue growth in aquaculture* considering four boundaries:

- ✓ *Biological productivity*
- ✓ *Environmental constraints to that productivity*
- ✓ *Policy that inhibits or promotes different kinds of aquaculture*
- ✓ *Social preferences that determine aquaculture markets*





Recommendation

- ❑ In order to fulfill the demands of the future, aquaculture must follow the three pillars of sustainability and be economically, socially and environmentally friendly:
 - ❑ **Economic:** aquaculture must be a viable business opportunity with a positive long-term outlook
 - ❑ **Social:** Aquaculture must be socially responsible and contribute to community health and well-being
 - ❑ **Environmental:** Aquaculture should not create significant disruption to the ecosystem or be responsible for the loss of biodiversity or significant pollution impact

Maria Darias underlines the need for Africa's aquaculture to grow in a sustainable way:

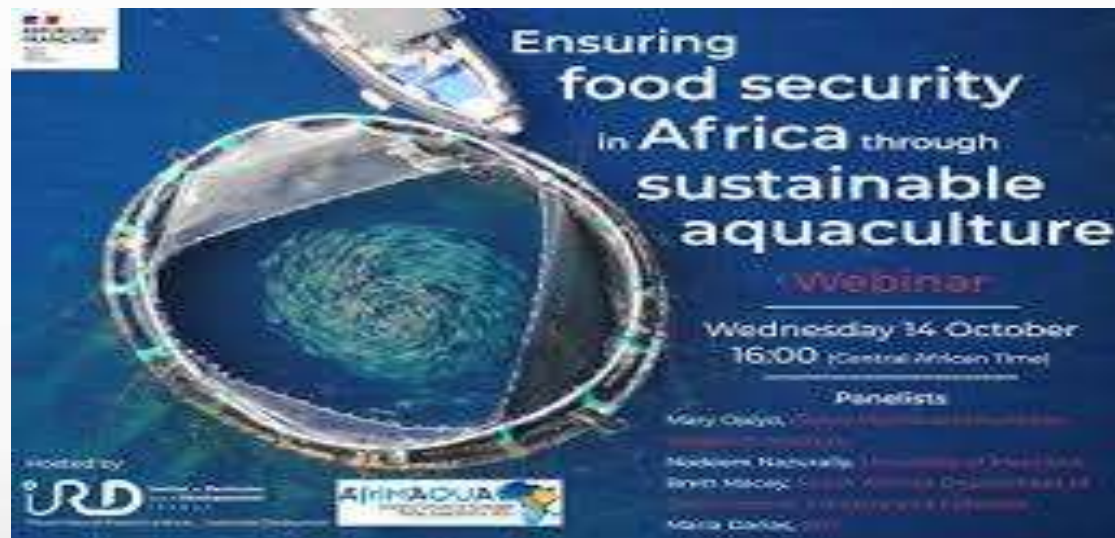
"Aquaculture should not create a significant impact on the ecosystems. It must also be economically sustainable, socially responsible and contribute to the communities' well-being."

TRANSFORMING OUR WORLD:



**THE 2030 AGENDA FOR
SUSTAINABLE DEVELOPMENT**

Thank you for your attention



The poster features a central image of a circular, clear plastic container filled with water, with a small fish visible inside. The background is dark blue with a subtle pattern of light blue waves. Text is overlaid on the right side of the image.

**Ensuring
food security
in Africa through
sustainable
aquaculture**

Webinar

Wednesday 14 October
16:00 (Central African Time)

Panelists

- Mary Oduya, *Country Representative, FAO*
- Madoeni Ndzuvale, *University of Zimbabwe*
- Brian Mucyo, *Chief, Aquaculture Department, FAO*
- Maria Dorcas, *FAO*

Hosted by **IRD** **AfrAQUA**

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