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PROGRAMME COMMITTEE

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**Blue Transformation in Action: Guidelines for Sustainable Aquaculture
(GSA)**

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EXECUTIVE SUMMARY

- Expansion and intensification of the aquaculture sector has been a major factor in the doubling of global per capita aquatic food consumption since the 1960s and increasing demand from a growing population can only be met by the sustainable growth of aquaculture.
- The Guidelines for Sustainable Aquaculture (GSA) provide a comprehensive framework for the management and development of sustainable aquaculture and are designed to support Members and other stakeholders in the implementation of the 1995 Code of Conduct for Responsible Fisheries and the Blue Transformation roadmap.
- The GSA form a core component of FAO's programmatic work on aquaculture.

GUIDANCE SOUGHT FROM THE PROGRAMME COMMITTEE

- The Programme Committee is invited to review this document and provide guidance on supporting implementation of the GSA.

Draft Advice

The Committee:

- **welcomed FAO's work on aquaculture and the adoption of the GSA by the 36th Session of the Committee on Fisheries (COFI);**
- **encouraged technical and resource partnerships to support the further development of sustainable aquaculture.**

I. Introduction and context

A. *The growth of aquaculture*

1. Aquaculture is a millennia-old activity, integrated with natural, social, economic, and cultural environments. Since the 1970s, aquaculture has experienced very rapid expansion and/or intensification with many major developments and today represents the fastest-growing food production sector, fueled by scientific progress, technological innovations, and investment, amid a consistent increasing global demand for aquatic foods. Expansion and intensification of the aquaculture sector have been major factors responsible for the doubling of global per capita aquatic food consumption since 1960 (20.7 kg/capita in 2022) making increasing net contributions to the food security and nutrition of a growing population.

2. FAO projects further increase in production, consumption and trade of aquatic food products, driven mainly by a sustained growth in aquaculture. Accounting for about 69 percent of the increase of the total fisheries and aquaculture production since the late 1990s. In 2022 and for the first time in history, aquaculture surpassed capture fisheries in producing aquatic animals, representing 50.9 percent of the world total production and a record 57 percent of aquatic foods destined for human consumption. In 2022, aquaculture produced 94.4 million tonnes of aquatic animals: 61.6 million tonnes of finfish (65.2 percent), 18.9 million tonnes of shelled molluscs (20.0 percent), 12.8 million tonnes of crustaceans (13.5 percent) and 1.2 million tonnes of other species (1.3 percent), in addition to 36.5 million tonnes of algae. Inland aquaculture contributes 63 percent of animal aquaculture production with 37 percent coming from mariculture and brackish coastal water aquaculture. Around 700 species of aquatic animals and plants are being cultured with the sector continuing to diversify.

3. However, some of these developments have caused undesirable social and environmental impacts, occasionally leading to conflicts between users of land, water, and living aquatic resources, and at times negatively affecting the aquatic environment, its biodiversity and its associated ecosystem services. Concerns remain regarding, *inter alia*, habitat destruction and modification, the irresponsible and unregulated use of chemicals and veterinary medicines, the impact of escapees on wild stocks, and the use of feed ingredients that are not sustainably sourced, in addition to social and economic inequalities.

B. *Historical FAO strategic support*

4. In 1995, Members adopted the Code of Conduct for Responsible Fisheries (CCRF)¹ as the reference framework for national, regional, and international efforts to ensure sustainable production, harvesting and utilization of living aquatic resources in harmony with the environment, considering all their relevant biological, technological, economic, social, environmental and commercial aspects.

5. Several other international instruments and initiatives of relevance to aquaculture have been developed and implemented concurrently with the CCRF, including the 2021 COFI Declaration for Sustainable Fisheries and Aquaculture². They address responsible governance principles of tenure, equitable livelihoods, sustainable resources management, including feed, biological diversity, biosecurity, environmental protection, climate change and natural disasters, social responsibility and gender equality, international trade, responsible investment, innovation and science. While there is a great need to support countries to implement these various instruments, significant progress has been made in several areas of aquaculture research, technology and practice.

6. Aquaculture is fully aligned with the FAO Strategic Framework 2022-31 in support of the transformation to MORE efficient, inclusive, resilient and sustainable agrifood systems for *better production, better nutrition, a better environment* and a *better life*, leaving no one behind. The Blue Transformation roadmap 2022-2030: A vision for FAO's work on aquatic food system³, guides FAO's efforts to support agencies, countries and communities to use existing and emerging knowledge, tools

¹ [Code of Conduct for Responsible Fisheries](#)

² [2021 COFI Declaration for Sustainable Fisheries and Aquaculture](#)

³ [The Blue Transformation roadmap 2022-2030: A vision for FAO's work on aquatic food system](#)

and practices to secure and sustainably maximize the contribution of aquatic food systems to food security, nutrition and affordable healthy diets for all. The three global objectives of the Blue Transformation roadmap are: i) sustainable aquaculture intensification and expansion satisfy global demand for aquatic foods and distribute benefits equitably; ii) effective management of all fisheries delivers healthy stocks and secures equitable livelihoods; and iii) updated value chains ensure the social, economic and environmental viability of aquatic food systems.

II. The Guidelines for Sustainable Aquaculture

A. Request and process

7. The Guidelines for Sustainable Aquaculture⁴ (GSA) were prepared at the request of Members in an inclusive, transparent and participatory manner under the guidance of the Sub-Committee on Aquaculture (COFI:AQ) of the FAO Committee on Fisheries (COFI).

8. In 2017, the 9th Session of COFI:AQ called for the identification of successful initiatives in support of sustainable aquaculture and their documentation and compilation into the GSA, towards better implementation of the CCRF and achievement of the Sustainable Development Goals (SDGs) through the contributions of the aquaculture sector. In this regard, FAO carried out a global process to consult with its Members, partners and stakeholders including representatives of farmers, civil society organizations (CSOs), governments, regional organizations and academia, to develop the GSA.

9. Towards their preparation, FAO convened a first Expert Consultation in June 2019 which identified a process for developing the GSA including making use of existing guidelines; a methodology and criteria for selecting case studies aimed at providing lessons learned; a list of thematic modules which GSA should cover; and an updated roadmap for the production of GSA. Subsequently, seven regional consultations were held from November 2019 to April 2021 for Africa, Asia, Eastern Europe and Central Asia, Europe and North America, Latin America, Near East and North Africa, and Pacific and Caribbean. Each regional consultation brought together government appointed representatives, international organizations, research institutions, academia, civil society as well as fishery and aquaculture regional bodies. FAO then convened a second Expert Consultation in October 2021 to review this draft and, based on guidance received from COFI and the Sub-Committee on Aquaculture, the GSA were further advanced through a written correspondence procedure with Members, refined through a Member-based Task Force meeting in January 2023. The final draft GSA were approved by the Twelfth Session of COFI:AQ in May 2023 and adopted by the 36th Session of COFI in July 2024.

10. The GSA is the first ever global normative document exclusively devoted to the sustainable development of aquaculture.

B. GSA Structure and content

11. The GSA offer a comprehensive framework for the management and development of sustainable aquaculture and are designed to support Members and other stakeholders in the implementation of the CCRF. The GSA were created in response to the rapid expansion of aquaculture, the fastest-growing food production sector in the world, driven by scientific progress, technological innovations and investment, amid a consistently increasing global demand for aquatic foods.

12. The GSA consist of three sections: a) vision, objectives, scope and guiding principles, b) guidelines for promoting sustainable aquaculture; c) implementation and monitoring, and two Annexes. In line with FAO's Blue Transformation roadmap, the GSA set out clear objectives, aiming to promote economic, social, and environmental sustainability, as well as biosecurity and animal welfare.

13. The vision of the GSA is the advancement of an aquaculture sector that contributes significantly to a world free from hunger and to equitable improvement of the living standards of all actors in its value chain, including the poorest, and:

⁴ [COFI/2024/INF/7. Guidelines for Sustainable Aquaculture](#)

- a. advances towards more productive, efficient, resilient, climate-smart and socially and environmentally responsible agrifood systems;
- b. fulfils its potential to meet the increasing demand for safe, healthy, accessible and affordable aquatic foods and aquatic products with reduced impacts on the global environment;
- c. contributes to sustainable development goals and helps to eradicate poverty, malnutrition and hunger; and matures in an economically, socially and environmentally sustainable way.

14. The GSA are global in scope and should be adapted to apply to aquaculture practices in its varied contexts, systems, scales (including subsistence, commercial small, medium and large-scale, individual or corporate operations), farmed species and farmed types (including fed and unfed species of aquatic organisms), environments (including marine, brackish and freshwater), location (including rural, urban and peri-urban zones) and activities, including feed and seed production, grow-out and post-harvest activities.

15. The GSA provide guidance on who, what and how to develop and implement public policies, strategies, and plans and legal and institutional frameworks for sustainable aquaculture growth and manage natural resources and farm business sustainably. The GSA recognize that governance and planning form the foundation of sustainable aquaculture, promoting principles of accountability, equity, and efficiency. Effective governance minimizes risks to both society and farmers, ensuring proper resource allocation and fostering a secure environment for investment.

16. The GSA provide guidance on key technical components of a sustainable aquaculture sector related to responsible production and sustainable value chains, including through recommendations related to strengthening biosecurity and improving animal welfare, improvements to feed and feeding management of fed species, improving resource use efficiency and reducing environmental impact. Effective management of aquatic biodiversity and genetic resources in accordance with the Global Plan of Action (GPA) for the Conservation, Sustainable Use and Development of Aquatic Genetic Resources (AqGR) for Food and Agriculture, One Health approach and the FAO Action Plan on Antimicrobial Resistance (2021–2025), is essential for healthy ecosystems, human well-being and efficient production systems. Solutions and innovations to challenges like water access, greenhouse gas emissions and pollution, such as water recycling and nutrient recovery are also outlined in the GSA.

17. The GSA also provide a guidance on who, what and how to enhance social responsibility, decent work and gender equality; and who, what and how to establish and improve sustainable aquaculture value chains, market access and trade, including reduction of aquatic food loss and food waste. The GSA further call for aquaculture products to be integrated into nutrition-sensitive, circular, and sustainable food systems. A competitive value chain, including post-harvest, processing, logistics, and quality control, is essential for sustainable development and equitable sharing of benefits. Market access, facilitated by agreements and adherence to standards, is crucial and requires strong public- private partnerships.

18. Additionally, the GSA provide a guidance on who, what, and how to establish mechanisms and services required to support sustainable aquaculture development, including funding and financing, research and innovation, communication, and capacity development; and who, what, and how to develop implementation arrangement and technical support. Key services such as knowledge hub, extension, training, funding and technology access, support expansion and uptake, supported by digitalization, to enhance productivity and networking for knowledge transfer. Implementation of the GSA requires action by both Members and stakeholders, and should consider enhancing technical cooperation, building partnerships, financial assistance, institutional capacity development, knowledge sharing and exchange of experiences.

19. The GSA are a comprehensive and adaptable framework designed to address the challenges posed by the rapid growth of the aquaculture sector globally and support its sustainable expansion and intensification, especially the small-scale aquaculture. Envisioning a sector that contributes to global food security and uplifts living standards, the GSA underscore the importance of governance, responsible production, and social considerations. By emphasizing principles such as accountability, equity, and efficiency, they aim to minimize risks and ensure sustainable resource allocation. To achieve

these goals, collaboration among Members and stakeholders is crucial, and Members are encouraged to facilitate the use of national level platforms to implement the GSA.

20. The GSA, designed for global applicability, acknowledge the dynamic nature of the aquaculture sector and are designed to be periodically updated to reflect emerging issues, thereby promoting continuous improvement and adaptation in the pursuit of sustainable aquaculture development. However, the guidelines fully recognize that countries face diverse challenges and have different needs and capacities regarding aquaculture development, while also sharing significant challenges and opportunities in relation to investment and financing, technical capacity, access to aquatic resources, services, markets, and animal health.

II. Promotion and implementation

21. Since its adoption, FAO has started to mainstream the GSA into its programmatic work as a top level priority and has begun to mobilize resources for identified funding gaps. Through funding provided by the European Union, FAO is developing a comprehensive communication strategy, targeted towards key decision makers and stakeholders involved in aquaculture. A series of regional workshops will be organized to promote and support the implementation of GSA at regional and national context, actively engage stakeholders' participation, and align with existing policies. In parallel, FAO is mainstreaming the GSA in current and medium horizon projects, such as through Global Environment Facility funded projects with aquaculture components, as well as using the GSA to guide the development of future Country Programming Frameworks.

22. In this context, FAO will specifically support Members in developing platforms to oversee the implementation of the GSA, including on enhanced data collection systems, aquaculture governance and policy frameworks, and the development of national action plans. Additionally, FAO will provide specific technical support for Members to enhance the capacity of small- and medium-scale aquafarmers enabling them to maximize economic and social benefits and minimize environmental impacts. FAO will continue to work with Members and partners, including through the Global Sustainable Aquaculture Advancement Partnership (GSAAP) and South-South and Triangular Cooperation (SSTC) mechanisms, to mobilize resources to assist Members in implementing the GSA and best practices in support of the Blue Transformation roadmap.

23. The GSA is the first new normative agreement to turn Blue Transformation into action. Under the Blue Transformation vision, a top priority is expanding aquatic food systems to increase their contribution to nutritious and affordable healthy diets for the most vulnerable, while fostering equitable growth, especially for those communities that depend on fisheries and aquaculture. FAO, together with its Members and partners, leverages the GSA to raise awareness of the importance of aquaculture development and provides a vehicle to direct resources to priority actions.

24. Mobilizing resources and establishing strategic partnerships will be essential to ensure impactful delivery of the GSA for an effective Blue Transformation.