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# COMMITTEE ON FISHERIES

## Thirty-sixth Session

8–12 July 2024

### **BLUE TRANSFORMATION ACTIONS ON CLIMATE RESILIENT AQUATIC FOOD SYSTEMS – SUPPORTING THE FAO STRATEGY ON CLIMATE CHANGE**

#### Executive Summary

This document outlines climate actions that are currently ongoing across the FAO Fisheries and Aquaculture Division and in decentralized offices in response to the COFI35 request regarding “the development of a set of FAO actions focused on climate resilient fisheries and aquaculture”, and in the context of the Blue Transformation roadmap. It also provides potential climate actions that could be undertaken in the future, subject to the availability of financial resources, as well as buy-in and commitment from Members and partners.

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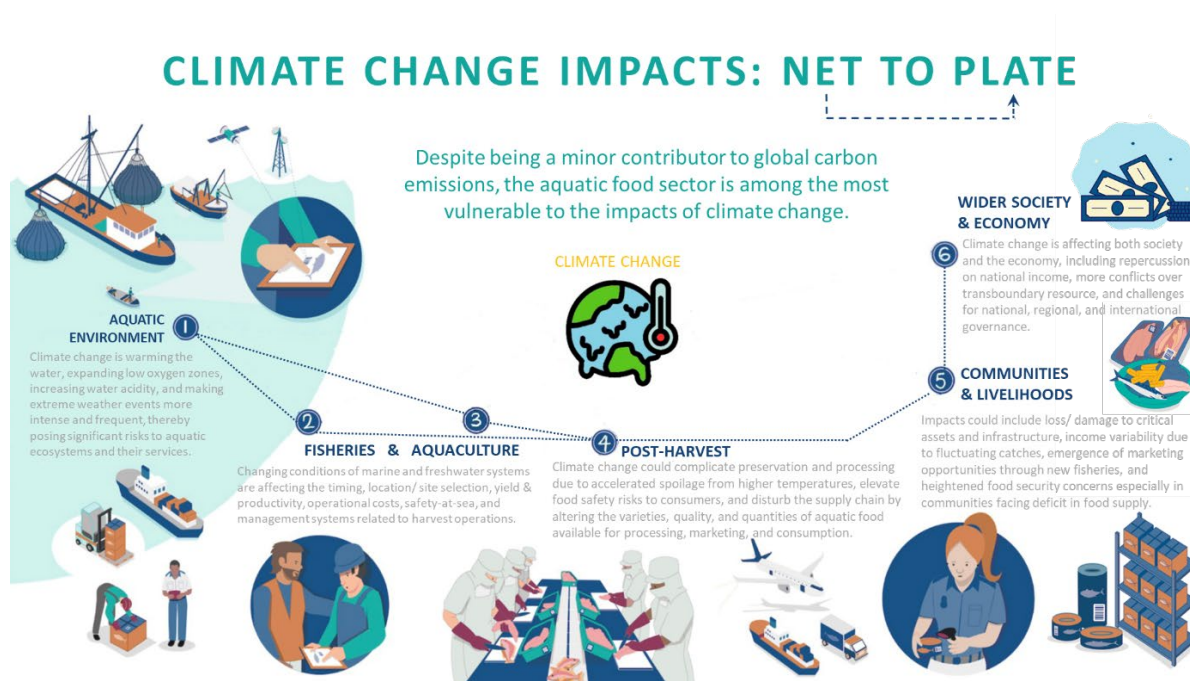
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## I. BACKGROUND AND OBJECTIVES

1. Climate change is expected to have far-reaching consequences on food production from freshwater, coastal and open ocean marine ecosystems. These consequences will ripple through the aquatic food value chains, from “net to plate” (e.g. harvesting, storage, processing, distribution, marketing, and consumption), with significant nutritional, social, geopolitical, and economic implications especially for countries and communities most dependent on the aquatic food sector (Figure 1). Given the need for effective responses to these impacts, FAO is engaging in a variety of actions focused on building resilience in aquatic food systems and mitigating the projected impacts of climate change.



**Figure 1.** Climate change impacts: net to plate (source: modified from a figure produced by [Seafood Alliance Legality & Traceability](#))

2. This document outlines climate actions that are carried out in support of the Blue Transformation roadmap<sup>1</sup> for the period 2024-2030 and expected to help maximize the contribution of aquatic food systems to the achievement of the adaptation and mitigation goals of the Paris Agreement. Blue Transformation is a critical part of the FAO Strategic Framework for 2022-31<sup>2</sup> approved by the 194 Member States. It provides an overarching framework to guide FAO’s work on aquatic food systems to be achieved by action on the three Blue Transformation core objectives in aquaculture, fisheries, and value chains (Figure 2).

3. Each objective of the Blue Transformation features a set of targets that are intrinsically linked to climate change. The climate context of each Blue Transformation target is explicitly described, together with a set of actions aimed at mainstreaming climate change considerations into fisheries, aquaculture, and value chains<sup>3</sup>. This mapping exercise was carried out in response to the

<sup>1</sup> FAO. 2022. Blue Transformation – Roadmap 2022–2030: A vision for FAO’s work on aquatic food systems. Rome. <https://doi.org/10.4060/cc0459en>. Also see <https://www.fao.org/3/cc0458en/cc0458en.pdf>

<sup>2</sup> [www.fao.org/3/cb7099en/cb7099en.pdf](https://www.fao.org/3/cb7099en/cb7099en.pdf)

<sup>3</sup> To ensure an inclusive development process, informal consultations were conducted with different teams of NFI at headquarters and decentralized offices. Additional written input was collected to gather insights into FAO’s ongoing activities in relation to climate resilient aquatic food systems focusing on both adaptation and mitigation, as well as potential activities that could be initiated.

recommendation from the 35th Session of the Committee on Fisheries (COFI35) regarding “the development of a set of FAO actions focused on climate resilient fisheries and aquaculture”<sup>4</sup>.



**Figure 2.** Three objectives of Blue Transformation

4. The FAO corporate agenda on climate change is set and guided by the FAO Strategy on Climate Change 2022–2031<sup>5</sup> that was endorsed by the FAO Council in 2022, with an ambitious vision to make agrifood systems a central part of the solution to the climate crisis. While outlining climate actions that contribute to building resilience of the aquatic food sector, this document also indicates how climate actions under the Blue Transformation support the implementation of the FAO Strategy on Climate Change 2022–2031 and the Action Areas of its Action plan 2022–2025 (Annex 1), the Programme Priority Areas (PPAs) in the FAO Strategic Framework 2022–31 (Annex 2), as well as the Sustainable Development Goals (SDG) targets. The purpose of this document is to guide strategic planning and support resource mobilization.

## II. FAO ONGOING ACTIONS ON CLIMATE RESILIENT FISHERIES AND AQUACULTURE

5. FAO’s Fisheries and Aquaculture Division (NFI) ongoing actions to address observed and projected climate change impacts on aquatic food systems are organized around the three core objectives and associated targets of Blue Transformation as summarized in the tables below. For each target, a rationale for why climate action is needed is described.

### Aquaculture

6. Aquaculture has been one of the fastest growing food production systems over the last decades in some locations, surpassing capture fisheries in aquatic animal production for the first time, increasingly<sup>6</sup> becoming an essential component of global food security. However, it is highly vulnerable to climate change, which poses challenges to its productivity, sustainability and profitability. To address these challenges, it is crucial to recognize the vulnerability of aquaculture, develop and implement effective technologies that increase the adaptive capacity of production systems, and establish adaptation strategies to foster resilience while ensuring its contribution to food

<sup>4</sup> FAO. 2023. Report of the Thirty-fifth Session of the Committee on Fisheries, Rome, 5–9 September 2022. FAO Fisheries and Aquaculture Report, No. 1391. Rome. Paragraph 16(d). <https://doi.org/10.4060/cc3652en>

<sup>5</sup> FAO. 2022. FAO Strategy on Climate Change 2022–2031. Rome. <http://www.fao.org/3/cc2274en/cc2274en.pdf>

<sup>6</sup> FAO. 2024. *The State of World Fisheries and Aquaculture 2024. Blue Transformation in action*. Rome

security. These require actions from different stakeholder levels, from on-the-ground best practices to appropriate policy development and regulatory actions. Additionally, improved Disaster Risk Management (DRM) strategies and capacities are also needed to cope with the projected impacts related to climate related extreme weather events<sup>7</sup>.

7. Moreover, as for any other productive activity, aquaculture must balance productivity and environmental impact. In the current context, any productive or economic activity needs to assess its impact on climate change, particularly in terms of greenhouse gas emissions (GHG), and design mitigation responses. Aquaculture products are among the food commodities with the lowest GHG emissions, and some aquaculture activities are even known to have either negligible or even negative GHG emissions, meaning that they can help remove GHG from the atmosphere. In this respect, it is necessary to promote the adoption of science-based technologies that can produce aquatic foods sustainably while reducing GHG emissions, making the sector more productive and resilient to climate change. It is also paramount to understand how governments and stakeholders are designing strategies to deal with adaptation and mitigation in aquaculture and support these actions. Table 1 provides a list of climate actions that are currently ongoing across the Division and decentralized offices in support of the Blue Transformation targets on aquaculture.

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<sup>7</sup> This will be further discussed in the DRM Strategy for aquatic food systems currently under development.

**Table 1. Aquaculture**

<b>BT Targets</b>	<b>Climate rationale</b>	<b>Climate actions</b>	<b>FAO Action Area</b>	<b>PPA</b>	<b>SDG target</b>
<b>BT Target A1:</b> Effective global and regional cooperation, planning, and governance enhance aquaculture development and management	The impacts of climate change will require new planning and governance strategies for aquaculture at local, regional, and global levels. To effectively respond to these impacts, stakeholders must take into account climate vulnerabilities and risks in aquaculture planning, development, and management	Reviewing the status of policies and adaptation plans for aquaculture in Latin America and the Caribbean (LAC)	2.1.1, 2.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Analyzing the status and perspectives of seaweed farming in Latin America	2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing a Strategic Framework for Adapting Aquaculture to Climate Change (FCCAA) supported by case studies on two different productive chains	1.2.1, 2.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target A2:</b> Innovative technology and management support the intensification and expansion of sustainable and resilient aquaculture systems	When managed sustainably, aquaculture has a significant growth potential to contribute to food security while maintaining a generally low carbon footprint. Encouraging and supporting the adoption of innovative technologies can improve aquaculture management and enhance productivity. This not only makes the sector more resilient to climate change but also helps further mitigate GHG emissions.	Taking stock of technological innovations to support climate change adaptation and mitigation strategies available to FAO Members	2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Identifying climate mitigation strategies in the aquaculture sector and assessing aquaculture contribution to GHG emissions/removals	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target A3:</b> Equitable access to resources and services delivers new and secures existing aquaculture-based livelihoods	Climate change significantly impacts water temperatures, acidity and oxygen levels of aquatic ecosystems and resources critical to aquaculture. Therefore, accounting for climate change is a prerequisite for securing and expanding aquaculture-based livelihoods. Additionally, climate induced extreme weather events can damage aquaculture infrastructure and assets. This requires adaptive strategies with an emphasis on equitable access to resources and services for stakeholders that are	Providing capacity building to young fish farmers for uptake of innovative cross-sectoral solutions	3.1.1	BP2, BE1, BL2	1.1, 2.1, 2.2, 2.4, 8.3, 8.5, 10.1, 10.2, 10.7, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c

	among the most vulnerable to the impacts of climate change.				
<b>BT Target A4:</b> Aquaculture operations that minimize environmental impacts and use resources efficiently	Promoting aquaculture production practices and processes that are less impactful to the environment can add to the global effort to produce food with less impact on climate change.	Developing an inventory of climate-smart aquaculture practices	1.2.1, 2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Integrating climate change considerations into the Guidelines for Sustainable Aquaculture (GSA)	1.1.1, 1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing two guidelines and expanding the information system to enhance the capacity of governments to conserve and adapt key genetic resources to climate change as well as control and manage the impact of introduced and alien invasive species	1.2.1, 2.1.1, 2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Enhancing capacity of governments, extension services providers and producers (particularly women and youth) to expand aquaculture production in low-input, integrated and/or non-fed systems	2.1.1, 2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target A5:</b> Regular monitoring and reporting of the state and the ecological, social, and economic impacts of aquaculture development	Evaluating and reporting the impact of aquaculture on climate change as well as its climate related vulnerability and risks will help the continuous improvement of production processes to collectively achieve sustainability and climate resilience.	Accounting GHG emissions of aquaculture systems	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c

## Fisheries

8. Evidence has shown substantial distribution shifts of marine organisms in response to climate change, and projections indicate shifts in transboundary stocks for most Exclusive Economic Zones (EEZs) worldwide. Ocean warming is also causing changes in current and potentially future catch yields, with tropical regions expected to experience greater declines than the global average.

9. Climate change is having a profound impact on many freshwater ecosystems, posing a significant threat to approximately 50 percent of global freshwater fish species. These impacts are occurring cumulatively and synergistically with existing pressures such as overfishing and pollution. The resulting changing conditions of aquatic ecosystems are affecting the timing, location, yield and productivity, operational costs, safety-at-sea, and management systems related to fisheries.

10. Fortunately, adaptation policy frameworks for resilient fisheries exist, including the FAO Adaptation Toolbox and guidance on good practices to climate-proof<sup>8</sup>the fisheries management cycle, but require significant implementation efforts. There are also significant opportunities to reduce the carbon footprint of fisheries production, by decarbonizing fishing vessels, fishing gear, and fishing port infrastructure, as well as by improving fisheries management to reduce fishing effort and increase fish stocks. There is an urgent need for the enhanced uptake and implementation of adaptation and mitigation solutions to transition capture fisheries from a state of high vulnerability to climate change, to be more climate resilient in the pursuit of sustainability. Table 2 provides a list of climate actions that are currently ongoing across the Division and decentralized offices in support of the Blue Transformation targets on capture fisheries.

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<sup>8</sup> Reid, A.J., Carlson, A.K., Creed, I.F., Eliason, E.J., Gell, P.A., Johnson, P.T., Kidd, K.A., MacCormack, T.J., Olden, J.D., Ormerod, S.J. and Smol, J.P. 2019. Emerging threats and persistent conservation challenges for freshwater biodiversity. *Biological Reviews*, 94(3), pp.849-873. <https://doi.org/10.1111/brv.12480>

**Table 2. Fisheries**

<b>BT Targets</b>	<b>Climate rationale</b>	<b>Climate actions</b>	<b>FAO Action Area</b>	<b>PPA</b>	<b>SDG target</b>
<b>BT Target F1:</b> Effective policies, governance structures and institutions support fisheries	Policies, governance structures and institutions are facing additional uncertainty brought by climate change because of observed and projected impacts on resources. Flexible and adaptive policy and institutional frameworks are needed at national and regional levels to enable timely actions for addressing climate change and other interlinked challenges (e.g. biodiversity loss). Moreover, climate sensitive policies need to be inclusive and account for the interest of vulnerable groups, such as Small-scale Fisheries (SSF).	Mainstreaming climate change into fisheries governance (sub-national, national and regional levels)	1.1.1, 2.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target F2:</b> Equitable access to resources and services enhances the livelihoods of fishers and fish workers	SSF, women, and Indigenous Peoples are among the most vulnerable to climate change. They are particularly disadvantaged because of the risky nature of their fishing activity, which is highly dependent on natural resources and highly vulnerable to change. The limited access to information and services makes the co-exploration and co-design of adaptation solutions particularly challenging. FAO is working to provide adequate support to increase their adaptive capacity.	Providing training on safety at sea for fisherfolk, with an emphasis on small-scale fishers, as well as preparing and disseminating awareness raising and training materials (e.g. e-learning courses, training of trainers' package, posters, and factsheets)	2.1.1, 3.1.2	BP2, BP4, BE1	1.4, 2.1, 2.2, 2.3, 2.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Increasing access to finance and insurance services for SSF, through support to market supply/demand studies, the development of suitable finance and insurance products, noting that FAO also serves as the secretariat of the CAFI-SSF network (Global Network for capacity building to increase access of small-scale fisheries to financial services)	1.1.2, 3.1.2, 3.2.1	BP2, BP4, BE1	1.4, 2.1, 2.2, 2.3, 2.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target F3:</b> Effective fisheries management	In many areas of the world, there is still a high level of uncertainty regarding the impacts of climate change on fisheries. Despite the uncertainty, strengthening	Developing knowledge products on climate impacts and responses for inland fisheries	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing knowledge products on climate impacts and responses for coastal fisheries	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c



systems address ecological, social and economic objectives, while considering tradeoffs	management is the most suitable and often the best adaptation option. It is essential to strengthen management guided by science and data, to foster adaptive management practices, ecosystem-based approaches, and innovations that fit the complexity and uniqueness of specific ecosystems and resources.	Collaborating with climate impact model improvement project on marine fisheries	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Compiling examples and developing guidance on mainstreaming climate change considerations in the Ecosystem Approach to Fisheries (EAF)	1.2.1, 2.1.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Implementing marine ecosystem restoration for adaptation in field projects	2.2.1, 3.1.2	BP2, BE1, BE3	2.1, 2.2, 2.4, 2.5, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.1, 15.3, 15.4, 15.6
<b>BT Target F4:</b> Fishing fleets are efficient, safe, innovative and profitable	Fisheries assets must be climate-proofed to secure human lives and livelihoods and ensure long-term sustainability. Fishing is the most dangerous occupation and climate change is exacerbating the hazards. Therefore, fishing vessels should be adapted to operate in seas with higher waves and rough weather conditions, which means that they need to increase structural strength and buoyancy capacity. Actions towards improving preparedness of fisheries assets (including infrastructure) are needed to withhold climate impacts and disasters. Investing in innovation is one way to minimize impacts of climate change on assets and reduce contribution of fisheries to climate change, thereby enhancing economic viability while reducing ecosystem impacts.	Further developing the FAO safe fishing vessel design database, which contains already more than 230 fishing vessel designs, with detailed drawings and construction manuals	1.1.2, 3.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Preparing standards and guidelines for safer, stronger, and better small-scale fishing vessels	1.1.2, 3.1.2, 3.2.1	BP2, BP4, BE1	1.4, 2.1, 2.2, 2.3, 2.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Designing, testing, and demonstrating new fishing vessel designs and training of boat builders in their construction	2.1.1, 3.1.2	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Designing climate-proof fish buying stations and providing technical advisory services for the construction of other climate resilient fisheries infrastructures	2.1.1, 3.1.2	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Undertaking a review of GHG accounting methodologies for industrial fleets, and facilitating the introduction of GHG saving technologies and innovations on fishing vessels, through technology transfers and pilot demonstrations	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing guidance and conducting studies on potential energy sources for fishing ports	1.1.2, 3.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c

## Value chains

11. Aquatic food products offer a climate-friendly, high-protein food source, with generally low carbon footprints but often high input costs. However, the GHG emissions associated with a product tend to increase further along the value chain, including processing, storage, and distribution, as these activities usually require energy and hence generate GHG emissions.

12. Aquatic food waste, if left to rot or is disposed of in landfill and along the bayfront, will generate methane gas, contributing to GHG emissions. Climate change can, in turn, exacerbate the challenge of reducing food loss and waste (FLW) through impacts linked to the outbreak of disease, food safety risks, and changing weather patterns. It is crucial to build capacity at the national level on effective preparedness, response, recovery and review of climate change and disease-related mass mortality events in aquatic populations. Improving handling, processing and distribution practices, research and investment into new processing or value-addition methods are additional key adaptation measures.

13. Furthermore, innovative solutions that support climate risk proofing of infrastructure, decarbonization along the aquatic food value chain, minimizing environmental impacts (including plastic waste), and sustainable consumption of low-carbon and nutritious aquatic foods are also essential steps towards climate resilience. Table 3 provides a list of climate actions that are currently ongoing across the Division and decentralized offices in support of the Blue Transformation targets on value chains.

**Table 3. Value chains**

<b>BT Targets</b>	<b>Climate rationale</b>	<b>Climate actions</b>	<b>FAO Action Area</b>	<b>PPA</b>	<b>SDG target</b>
<b>BT Target V1:</b> Efficient value chains that increase profitability and reduce food loss and waste	Sustainable and resilient aquatic food value chains are essential for nutrition and food security. Fish and other aquatic food products are highly perishable commodities. Their handling, processing, storage, and distribution require energy; thus, use of renewable energy and climate-smart technologies must be promoted, including efficient use of aquatic resources by reducing food losses and waste.	Mainstreaming the development and enforcement of value-addition methods, practices, approaches, and guidelines to curb losses and waste in national fisheries' policies and strategies, and supporting the establishment of an enabling institutional framework	1.1.2	BP2, BN4, BE1	2.1, 2.2, 2.4, 12.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing knowledge products, responses, and capacity building to reduce food losses and waste	1.2.1, 3.2.2	BP2, BN4, BE1	2.1, 2.2, 2.4, 12.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Designing climate-proofed fish buying stations	2.1.3	BP2, BN5, BE1	2.1, 2.2, 2.4, 2.b, 2.c, 10.a, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 17.11
		Promoting SSF post-harvest practices, including the use of digital tools, to build climate resilience	2.1.3, 3.2.1	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Designing and implementing adaptation solutions across value chains within the circular economy framework	1.1.2, 3.2.2	BP2, BE1, BE2	2.1, 2.2, 2.4, 12.2, 12.4, 12.5, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Implementing policy reforms to create deforestation-free aquatic food value chains	1.1.2	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing knowledge products on the use of renewable energy and cold supply chain along aquatic food value chains, including SSF interventions	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Promoting and scaling up climate-smart technologies and alternative energy use in post-harvest value chains, transfer, and capacity building	1.1.2	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target V2:</b> Transparent,	Women make up half of the overall workforce throughout the fisheries and aquaculture value chains,	Developing gender-responsive fish loss assessment methodology	2.1.4	BP2, BN4, BE1, BL1	2.1, 2.2, 2.3, 2.4, 5.4, 5.a, 5.c, 12.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c

inclusive and gender-equitable value chains support sustainable livelihoods	occupying critical roles. They are disproportionately affected by climate change, have different vulnerabilities, adaptation capacity and coping strategies to their male peers, which amplifies existing gender inequalities. Gender-equitable and inclusive (including youth and vulnerable groups) value chains can enable full access to and equal opportunities including equitable access to productive resources, climate-smart and labor-saving technologies, and practices.	Providing capacity building and support to women and youth on climate-smart technologies (e.g. FAO-Thiaroye processing technique, FTT) and byproduct valorization such as production of fish silage-based feed products business, i.e. feed, fertilizer	2.1.4	BP2, BE1, BL2, BL4	1.1, 1.5, 2.1, 2.2, 2.3, 2.4, 8.3, 8.5, 10.1, 10.2, 10.7, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 16.1
		Supporting women and youth in the development of business cases and linkage with financing sources	2.1.4, 3.2.1	BP1, BP2, BP4, BE1, BL2, BL3	1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 8.3, 8.5, 9.3, 10.1, 10.2, 10.7, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
<b>BT Target V3:</b> Fisheries and aquaculture products access international markets more efficiently	Climate change may negatively affect trade by increasing costs due to extreme weather events that destroy or degrade transport infrastructure, thereby affecting distribution and availability of aquatic food products. On the other hand, trade can help the sector adapt to higher average temperatures and more extreme weather conditions by offering consumers lower-emission goods and services and facilitating the use of climate-friendly technologies.	Promoting cross-border or intra-regional trade to offset the high extra-regional food import bill	3.2.1	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Supporting harmonization or setting and compliance to Sanitary and Phytosanitary measures (SPS)	2.1.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Promoting energy-efficient/low-carbon trade	3.2.2	BP2, BE1, BE2	2.1, 2.2, 2.4, 12.2, 12.4, 12.5, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
<b>BT Target V4:</b> Increased consumption of sustainable aquatic food, particularly	Climate change could threaten the supply of essential nutrients gained from fish and fishery products; affecting the size, distribution and abundance of species globally. The promotion of sustainable, nutrient-dense, affordable aquatic foods and leveraging knowledge and nature-	Developing knowledge products on utilization of fish processing by-products	1.2.1	BP1, BP2, BP5, BN1, BE1, BE3, BL3	1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.4, 5.b, 6.4, 9.c, 12.8, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.1, 15.2, 15.3, 15.4, 15.6, 16.1, 17.8
		Developing knowledge products on nutrition-sensitive fisheries and aquaculture	1.2.1	BP1, BP2, BP5, BN1, BE1, BE3, BL3	1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.4, 5.b, 6.4, 9.c, 12.8, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.1, 15.2, 15.3, 15.4, 15.6, 16.1, 17.8

in areas with low food and nutrition security	based solutions to adapt to climate change will lead to improved nutrition security.	Promoting production of fish powder and fish silage for valorization	2.1.3	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Promoting sustainable, nutrient-dense, affordable aquatic foods (e.g. low-trophic species, seaweed) as part of nutrition programmes such as school feeding and infant/young child feeding	2.1.3	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Supporting the development and implementation of strategies and/or guidelines to strengthen/spur the engagement with public procurement facilities, to integrate aquatic food products in national programmes such as school feeding, diet-related health challenged populations	3.2.2	BP2, BN1, BE1, BE3	1.3, 2.1, 2.2, 2.4, 2.5, 3.1, 3.2, 3.4, 12.8, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.1, 15.3, 15.4, 15.6
<b>BT Target V5:</b> Increased access to healthy, safe and high-quality aquatic food	Climate change may favor the presence of invasive alien species harmful to animal health and possibly increase risks of disease outbreaks. Moreover, it can affect the occurrence of food safety hazards at various stages of the food chain, therefore, posing significant challenges to food safety.	Supporting the standard-setting process related to marine biotoxins	2.1.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Developing technical guidance for implementing marine biotoxins monitoring systems	2.1.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Improving relevant water analysis in collaboration with laboratory and field staff	2.1.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Developing risks maps to feed early warning systems for harmful algal blooms	2.1.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1
		Leveraging the work of IOC-FAO Intergovernmental Panel on Harmful Algal Blooms (IPHAB)	3.2.2	BP1, BP2, BP4, BE1, BL3	1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 6.4, 9.3, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 15.2, 16.1

### **Cross-cutting actions**

14. Some cross-cutting actions can be implemented to help address the impacts of climate change on fisheries, aquaculture, and aquatic food value chains in a holistic and comprehensive manner. Integrating aquatic food systems into national climate policies and strategies is a fundamental step. This integration facilitates increased access to climate finance and enhances awareness of climate risks and solutions pertaining to the aquatic food sector.

15. Additional key cross-cutting areas of action include engaging with the United Nations Framework Convention on Climate Change (UNFCCC) to ensure visibility and consideration of aquatic food systems in the climate agenda, and developing integrated cross-sectoral approaches that recognize and prioritize the unique needs and challenges of the aquatic food sector. Strengthening partnerships to leverage a diverse range of expertise, resources and perspectives is also key to coping with the complex challenges posed by climate change to the sector.

16. All these cross-cutting actions are crucial to build the resilience of aquatic food production and value chains to the projected impacts of climate change. Table 4 provides a list of climate actions that are currently ongoing across the Division and decentralized offices with cross-cutting benefits for fisheries, aquaculture, and value chains.

**Table 4. Cross-cutting**

<b>Cross-cutting</b>	<b>Climate rationale</b>	<b>Climate actions</b>	<b>FAO Action Area</b>	<b>PPA</b>	<b>SDG target</b>
<b>Cross-cutting climate actions across aquaculture, fisheries &amp; value chains</b>	Crosscutting climate actions of relevance to fisheries, aquaculture, and value chains include integrating the aquatic food sector into national climate policies and strategies, improving access to climate finance, increasing awareness of climate risks and solutions within the sector, mainstreaming the consideration of aquatic foods in multilateral and cross-sectoral processes, and strengthening partnerships.	Integrating aquatic foods into discussions under UNFCCC and relevant policy and scientific fora	1.1.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Providing UNFCCC-related information to aquatic food stakeholders	1.1.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing GCF climate finance training material	1.2.1, 2.1.2	BP2, BE1, BL6	1.b, 2.1, 2.2, 2.4, 2.a, 10.1, 10.2, 10.b, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c, 17.5
		Developing guidelines on the inclusion of aquatic foods in the NDCs	1.1.1, 2.1.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing training manuals and video modules on climate resilient business models and good practices	1.1.2, 2.1.3	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c
		Developing project webpages as information repositories and platforms for information sharing	1.2.1	BP2, BE1	2.1, 2.2, 2.4, 13.1, 13.2, 13.b, 14.2, 14.3, 14.4, 14.6, 14.7, 14.b, 14.c

### III. POTENTIAL FUTURE ACTIONS

17. A wide range of potential climate actions could be undertaken in the future; their realization is contingent upon the availability of financial resources as well as buy-in and commitment from Members and partners.
18. In aquaculture, a priority future action area is to foster sustainable aquaculture operations that can ensure production growth while minimizing their carbon and environmental footprint. These include, for example, generating information and knowledge on the production potential of low-carbon and affordable protein sources (e.g. seaweed farming and growing bivalves), promoting technologies and innovations for effluent management in aquaculture, and tailored GHG mitigation solutions for different aquaculture systems. Innovative solutions are also crucial, such as species genetic improvement, and carbon efficient feed production and management. Moreover, adaptation is essential to make aquaculture operations, assets, and infrastructure more resilient to climate change and disaster risks. This can be achieved through the wider application and uptake of the Framework for Adapting Aquaculture to Climate Change (FCCAA) at country and farm level.
19. Capacity building plays a pivotal role in scaling up adaptation and mitigation in aquaculture, involving the delivery of training to government aquaculture officers, technicians, extension services providers and most importantly producers including the private sector (particularly women and youth) on key areas such as climate resilient aquaculture operations, low-input, integrated and/or non-fed systems. There is also a need to incorporate gender-transformative solutions in aquaculture adaptation and mitigation efforts, to ensure equitable consideration of specific needs, challenges, and opportunities.
20. As for fisheries, it is imperative to mainstream climate change considerations into fisheries management at local, national, and regional levels. This includes climate-proofing fishing assets and operations, providing livelihood options for fishers, and improving legal, governance and institutional responses to climate change within national fisheries agencies and regional fishery bodies (RFBs). To provide the evidence base needed for effective mainstreaming, efforts to address existing knowledge gaps could focus on identifying climate risks and solutions tailored to various contexts such as SSF, inland fisheries, Small Island Developing States (SIDS), and Large Marine Ecosystems (LMEs), and exploring the interlinkages between climate change and other prevailing issues such as biodiversity, gender equality and inclusivity. Furthermore, there is a necessity to provide extensive capacity building initiatives targeting government fisheries officers, technicians, extension services providers, boat builders, and fishers, with an emphasis on enhancing the adoption of climate resilient strategies, operations, and technologies in fisheries as well as bringing the needed climate knowledge to bare on international instrument negotiations and implementation (for example, the agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, (Biodiversity Beyond National Jurisdiction, BBNJ)).
21. In value chains, reducing food loss and waste remains a highly relevant climate solution. Optimizing resource utilization can achieve significant reductions in carbon emissions and help communities better withstand fluctuations in food availability and prices caused by climate related factors. Moreover, innovation is key to resilience, including, for example, the design of innovative solutions focused on climate efficient energy use in fishing ports and fish buying stations, and innovative financial tools such as Public-Private Partnerships (PPPs) to support implementation of climate solutions. Additionally, to address the adverse impacts of climate change on food safety, there is a need to invest in identifying and managing risks associated with food safety and animal health hazards. Capacity building to stakeholders along the value chain is also essential for promoting low emissions strategies and facilitating the uptake of adaptation solutions to reduce the risks of climate-induced disruptions on aquatic food supply chain. Furthermore, conducting studies that link the cost of healthy diets and impacts of unhealthy diets with the benefits of fish/aquatic food would be of great added value, especially in regions where malnutrition and Noncommunicable Diseases (NCD) prevail (i.e. Caribbean). Gender-transformative approaches are also crucial as they provide the necessary tools to make value chains more resilient to climate change and foster innovation to achieve more equal and efficient practices in the long term.



22. A prominent area of relevance cutting across fisheries, aquaculture, and value chains is to foster deeper integration of aquatic foods within the UNFCCC and other international fora. This integration aims to strengthen resource mobilization and partnerships, thereby enhancing climate action in the aquatic food sector. To increase dedicated climate finance to the sector, a useful activity could be to develop information briefs to raise awareness of donors on aquatic food-related climate risks and solutions. Moreover, efforts should focus on empowering small-scale holders, acknowledging their vulnerability to climate change impacts and their crucial role in sustainable food systems. Capacity building packages could be developed to ensure their effective engagement with climate policy-making processes (including UNFCCC) and other international policy fora (e.g. Biodiversity Beyond National Jurisdiction – BBNJ – and Global Biodiversity Framework – GBF – implementation discussions) and equitable access to climate finance. There is also a pressing need to generate information and knowledge on critical yet understudied domains such as the carbon sequestration potential of aquatic ecosystems, or climate and disaster risk mitigation and social protection systems including insurance for small-scale fishers and fish farmers. Finally, collaboration with the private sector is essential to encourage the integration of adaptation and mitigation in aquatic food business practices.

#### IV. CONCLUSION

23. This document provides an overview of FAO's work to address the multifaceted challenges posed by the projected impacts of climate change on the aquatic food sector, by outlining a set of ongoing initiatives and indicating broad areas of relevance for future activities. As a living document, its refinement will be an iterative process, continuously informed by the evolving priorities of countries and resources available to FAO. Crucially, given the cross-cutting nature of climate change, the successful implementation of this set of climate actions requires a collective commitment from the FAO Fisheries and Aquaculture Division teams, other FAO units, divisions and decentralized offices, Members, international, regional, and national aquatic food systems stakeholders.

24. The COFI and its Sub-Committees on Fisheries Management, on Aquaculture, and on Fish Trade, have a key role to play in fostering collaborative efforts necessary for success. They function as important intergovernmental fora for strategy and policy development and for debate and endorsement of emerging themes including climate change, while also providing a space for strengthening linkages with other intergovernmental bodies, financial institutes, research agencies, non-governmental organizations (NGOs) and civil society organizations. It is hoped that this document can set out to motivate discussions with Members on the perceived needs for climate actions in the fisheries and aquaculture sectors, catalyze climate actions within the aquatic food sector, to ultimately benefit millions of people reliant on the sector for food security, nutrition, and livelihoods.

## ANNEXES

**Annex 1.** Matrix of outcomes and action areas in the FAO Action Plan 2022–2025 for the implementation of the FAO Strategy on Climate Change.

	✓ <i>OUTCOME</i>	➔ <i>ACTION AREA</i>
<i>PILLAR I</i>  <i>Global and regional levels</i>	<i>1.1 Considerations of food security, nutrition, agrifood systems, natural resources and livelihoods are fully addressed in the international climate, environment, disaster risk, humanitarian and development agendas as part of the solution to climate change, and climate finance for agrifood systems is supportive.</i>	1.1.1 Promoting sustainable and resilient agrifood systems as part of the climate solution
		1.1.2 Promoting innovative solutions
	<i>1.2 The global community, countries and partners have access to and utilize data, science, evidence, tools, protocols, guidelines and standards related to climate change and agrifood systems that are collected and developed by FAO and partners, including for monitoring and reporting, at Members' request, climate vulnerability and risk analyses, barriers to adaptation and adaptation cost analysis, assessment models and good practices and policies on climate resilience, adaptation and mitigation.</i>	1.2.1 Supporting access to and dissemination of the latest evidence and data
<i>PILLAR II</i>  <i>Country level</i>	<i>2.1 FAO Members implement, monitor and report their climate commitments as outlined in their agrifood system strategies and/or climate change strategies, link them with the other commitments and tracking for sustainable development, including through their regular reporting to UNFCCC under the enhanced transparency framework and other international reporting frameworks.</i>	2.1.1 Enhancing FAO's technical and policy support to countries
		2.1.2 Enhancing Members' access to climate financing and partnerships
		2.1.3 Promoting the adoption of good practices and innovative solutions
		2.1.4 Promoting the integration of equality, inclusiveness and diversity in climate action
<i>2.2 FAO Members mainstream climate resilience, adaptation and mitigation in their policies and legislation, plans, programmes, practices and domestic and international investments across agrifood systems, including through FAO country programming frameworks and the United Nations Sustainable Development Cooperation Frameworks.</i>	2.2.1 Providing policy and legal support to mainstream climate change, biodiversity loss, and land degradation considerations	
<i>PILLAR III</i>  <i>Local level</i>	<i>3.1 Actors strengthen resilience and adaptive capacity through climate risk management and adaptation, especially in areas most vulnerable to climate change, reducing risks and enhancing sustainability of agrifood systems, ecosystems and related livelihoods.</i>	3.1.1 Empowering farmers and local communities for climate action
		3.1.2 Increasing the resilience of local communities and their ecosystems to climate risks
	<i>3.2 Local actors contribute to low-emission development pathways through more resilient and adapted agrifood systems with mitigation co-benefits.</i>	3.2.1 Ensuring that local actors from technologies and financing
		3.2.2 Facilitating collective climate action in agrifood systems
<i>CROSS CUTTING</i>  <i>Enhancing FAO's operational modalities</i>	<i>The operational modalities of FAO are enhanced, including through capacity development, resource mobilization, partnerships, and communication to ensure the successful delivery of FAO climate action.</i>	c.1 Developing FAO's human resources capacities to deliver its climate action and integrate climate risks
		c.2 Mobilizing financial resources for FAO climate action
		c.3 Raising awareness and communicating on FAO's progress and achievements in the delivery of its climate action
		c.4 Developing partnerships to support the delivery of FAO climate action

**Annex 2.** Programme Priority Areas (PPAs) in the FAO Strategic Framework 2022–31

PPA	Outcome statement
<b>BETTER PRODUCTION</b>	Ensure sustainable consumption and production patterns, through efficient and inclusive food and agriculture supply chains at local, regional and global level, ensuring resilient and sustainable agri-food systems in a changing climate and environment
BP1: Innovation for sustainable agriculture production	Sustainable crop, livestock and forestry production systems that are productive, resilient, innovative and competitive, and create integrated entrepreneurial and business opportunities, inclusive of small scale and vulnerable producers, supported through enabling technologies and policies
BP2: Blue transformation	More efficient, inclusive, resilient and sustainable blue food systems promoted through improved policies and programmes for integrated science-based management, technological innovation and private-sector engagement
BP3: One Health	Strengthened and better performing national and international integrated One Health systems for human, animal, plant and environmental health achieved through improved pest and disease prevention, early warning and management of national and global health risks, including AMR
BP4: Small-scale producers' equitable access to resources	Enhanced equitable access of small-scale producers and family farmers to economic and natural resources, markets, services, information, education and technologies ensured through improved policies, strategies and programmes
BP5: Digital agriculture	Accessible digital ICT technologies to enhance market opportunities, productivity and resilience integrated into agri-food systems policies and programmes, with particular focus on ensuring affordable and equitable access of poor and vulnerable rural communities
<b>BETTER NUTRITION</b>	End hunger, achieve food security and improved nutrition in all its forms, including promoting nutritious food and increasing access to healthy diets
BN1: Healthy diets for all	The right to adequate food established and transition towards healthy diets for national populations prioritized in integrated institutional, policy and legal environments that ensure and incentivize engagement of consumers and the private sector
BN2: Nutrition for the most vulnerable	Identifying and ending food insecurity and malnutrition for the most vulnerable individuals in all contexts made the specific focus of targeted policies, strategies and programmes developed and implemented by countries
BN3: Safe food for everyone	Integrated, multi-sectoral food safety policies and legislation across national agri-food systems adopted and implemented by governments, and capacities and awareness of value chain operators and consumers enhanced
BN4: Reducing food loss and waste	Clear, specific and contextualized roadmaps to prompt and enable all actors in the food supply chain, the food environment and at consumer level to reduce food loss and waste put in place and implemented by governments and intergovernmental organizations
BN5: Transparent markets and trade	Improved market transparency and equitable participation in markets, global value chains and international trade achieved through policy coordination and human and institutional capacities for evidence-based decision-making
<b>BETTER ENVIRONMENT</b>	Protect, restore and promote sustainable use of terrestrial and marine ecosystems and combat climate change (reduce, reuse, recycle, residual management) through more efficient, inclusive, resilient and sustainable agri-food systems
BE1: Climate change mitigating and adapted agri-food systems	Transformation and resilience of agri-food systems to achieve sustainability and Paris Agreement goals enabled through the establishment and implementation of climate-smart agricultural practices, policies and programmes
BE2: Bioeconomy for sustainable food and agriculture	A bioeconomy that balances economic value and social welfare with environmental sustainability promoted through formulation and implementation of integrated

	evidence-based policies and practices in micro and macro environments, using technological, organizational and social innovations
BE3: Biodiversity and ecosystem services for food and agriculture	Biodiversity for food and agriculture maintained and sustainable use, conservation and restoration of marine, terrestrial and freshwater ecosystems, and their services promoted through adoption of targeted policies and practices
BE4: Achieving sustainable urban food systems	More efficient, inclusive, resilient and sustainable urban and peri-urban agri-food systems transformation that addresses urban poverty, food insecurity and malnutrition, enables healthy diets and catalyses inclusive and sustainable rural transformation while safeguarding the underlying natural resources base, promoted through the adoption of supportive policies and programmes, and the initiation and scaling-up of actions and investments by national and local stakeholders
<b>BETTER LIFE</b>	Promote inclusive economic growth by reducing inequalities (urban/rural areas, rich/poor countries, men/women)
BL1: Gender equality and rural women's empowerment	Women's equal rights, access to, and control over resources, services, technologies, institutions, economic opportunities and decision-making ensured, and discriminatory laws and practices eliminated, through gender-responsive policies, strategies, programmes and legal frameworks
BL2: Inclusive rural transformation	Inclusive rural transformation and revitalization of rural areas ensuring equal participation of, and benefits to poor, vulnerable and marginalized groups accelerated through implementation of targeted policies, strategies and programmes
BL3: Agriculture and food emergencies	Countries facing, or at risk of acute food insecurity provided with urgent livelihood and nutrition assistance and, adopting a humanitarian-development nexus and its contribution to peace approach, their populations equipped with appropriate capacities to better withstand and manage future shocks and risks
BL4: Resilient agri-food systems	Resilience of agri-food systems and livelihoods to socio-economic and environmental shocks and stresses strengthened through improved multi-risk understanding and effective governance mechanisms for implementation of vulnerability reduction measures
BL5: Hand-in-Hand (HIH) Initiative	Agricultural transformation and sustainable rural development accelerated through targeting the poorest and the hungry, differentiating territories and strategies, and bringing together all relevant dimensions of agri-food systems through analysis and partnerships
BL6: Scaling up investment	Transformation towards sustainable agri-food systems with large-scale impacts on reducing inequalities and eradicating poverty and hunger accelerated through increased public and private investment, and improved capacities to leverage future investments