

## Gain and share

This gain and share document serves as basis to develop the '[Gain and Share Tool](#)' at the global action network web page. Through the Gain and Share Tool, network participants can gain and share knowledge to promote sustainable food from the oceans and inland waters for food security and nutrition. Elements in this dynamic document are results from input and suggestions by the network's members and some may be more detailed than others.

By exchanging best practices from different nations, through identifying challenges, resources and achievements, we can foster mutual learning related to the key elements of food security: '**sufficient**', '**safe**', '**nutritious**', '**dietary needs**', '**food preferences**', and '**leaving no one behind**'. Many actors play important roles to realize the potential of aquatic foods contribution to food security and nutrition, thus "**towards common goals**" is also added as key element and a part of the Gain and Share Tool.

The key elements are listed separately with subsections of identified challenges related to aquatic foods paired with knowledge and solutions. References to the relevant Sustainable Development Goals (SDG) and recommendations from the Committee on World Food Security ([CFS policy recommendations](#)) are also added. Examples of SMART commitments (Specific, Measurable, Achievable, Relevant and Timebound) by network members will be included as examples under solutions. For some challenges, knowledge (scientific research and reports etc.) and solutions (guidelines, actions and tools) may already be available, while for others, new knowledge and solutions will need to be identified. These gaps will be denoted with '**LINK?**' Some examples of 'knowledge' and 'solutions' may be relevant to more than one challenge; thus, these may be mentioned more than once. Aquatic foods will be the term used throughout the document and refers to all (edible) plant and animal sources from oceans and inland waters - suitable, known or unknown, for human consumption.

## Key element SUFFICIENT AQUATIC FOOD

The key element SUFFICIENT refers to the amount of food from oceans and inland waters available for human consumption and relies on: amount of food we can harvest, produce and preserve; reduction of food loss and waste; and access to affordable aquatic food. Relevant SDGs related to this element are SDG [2](#), [3](#), [4](#), [6](#), [9](#), [12](#), [14](#), [16](#) and [17](#).

Challenges		Knowledge	Solutions	SDG	CFS
		<a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'	<a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>Sustainable fisheries management</b>	<p><b>Sustainable utilization of marine living resources</b></p> <ul style="list-style-type: none"> <li>- <a href="#">EAF Nansen programme</a> Ecosystem Approach to Fisheries (FAO)</li> <li>- <a href="#">ICES</a> The International Council for the Exploration of the Sea</li> </ul> <p><b>Multi- and bilateral projects</b></p> <ul style="list-style-type: none"> <li>- <a href="#">LINK?</a></li> </ul> <p><b>Monitoring for scientific advice</b></p> <ul style="list-style-type: none"> <li>- <a href="#">The Ecosystem Approach to Fisheries (EAF)</a></li> </ul> <p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Assessment of commitments on sustainable fisheries to the Our Ocean conferences</a></li> <li>- <a href="#">Fisheries in the drylands of sub-Saharan Africa -Fish come with the rain</a> (FAO)</li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food (No. 2 and 8E) (FAO)</li> </ul>	<p><b>Monitoring national fisheries</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Fisheries monitoring Centre</a> (Norway)</li> <li>- <a href="#">Stock assessment for data limited fisheries</a> <a href="#">LINK?</a></li> <li>- <a href="#">Act relating to the management of wild living marine resources</a> (NO)</li> </ul> <p><b>Examine the potential to use mesopelagic resources</b> <a href="#">LINK?</a></p> <p><b>Implementation of guidelines</b></p> <p><a href="#">Securing sustainable small-scale fisheries: Showcasing applied practices in value chains, post-harvest operations and trade</a></p> <p><b>Resource</b></p> <p><a href="#">Convention</a> on Biological Diversity (CBD) target 6 (<a href="#">quick guide</a>) (ICSF)</p>	2, 4, 9, 12, and 14	4A.4 and 4C
B	<b>Sustainable aquaculture production</b>	<p><b>Sustainable feed ingredients</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Ocean to oven</a></li> </ul> <p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Demand and supply of feed ingredients for farmed fish and crustacean</a></li> </ul> <p><b>Guidelines</b></p>	<p><b>Sustainable feed ingredients</b></p> <ul style="list-style-type: none"> <li>- Use alternative feed ingredients in feed to aquaculture; Explore alternative feed ingredients (i.e. insects, algae, plants)</li> <li>- <a href="#">Greater use of by-products to reduce waste and use already available resources</a> <a href="#">LINK?</a></li> <li>- <a href="#">AquaVitae</a> Atlantic consortium looking for sustainable solutions for aquaculture</li> </ul>	2, 4, 12, 14, 16 and 17	3, 4B, and 4D

		<ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food (No. 2, 3, 8 (E and F)) (FAO)</li> </ul>	<p><b>Implementation of guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Guidelines for Sustainable Aquaculture (GSA)</a>. Regional consultations started in 2019. There is a <a href="#">report on the Regional Consultation on Africa</a> (FAO)</li> </ul> <p><b>Non-fed aquaculture for food and feed</b> (e.g. molluscs, seaweed, tunicates) <a href="#">LINK?</a></p> <p><b>Transparency and traceability</b> (collate, compile and summarise existing information)</p> <ul style="list-style-type: none"> <li>- <a href="#">Facts about Norwegian aquaculture</a></li> <li>- <a href="#">Sustainability in the Irish seafood sector</a></li> </ul>	and 17.15	
C	<b>Food loss and waste</b>	<p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">CFS HLPE #8</a> 'Food losses and waste in the context of sustainable food systems'</li> <li>- <a href="#">Right to food Discussion paper</a>' Food loss and waste and the right to adequate food: making the connection'</li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food Loss and Waste in Fish Value Chains</a> (FAO)</li> </ul>	<p><b>Reduce food loss and waste in the value chain</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food loss and waste in fish value chain</a>, FAO web tool</li> <li>- <a href="#">Food Heroes</a> North-West Europe initiative to reduce food losses in fish, meat and fruit &amp; vegetable sector</li> <li>- <a href="#">Stop food waste program</a> (Ireland)</li> <li>- <a href="#">Improved post-harvest technologies</a> (e.g. such as smoking ovens, and drying racks) <a href="#">LINK?</a></li> <li>- <a href="#">Solutions for Reducing Food Loss and Waste (FLW)</a> (FAO)</li> </ul> <p><b>SMART</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Norway</a> has made a SMART commitment to by 2030 halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses</li> </ul>	6 and 12 6.4, 12.3, 12.5	4A.5
D	<b>Transparency and traceability</b>	<p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Seafood traceability for fisheries compliance</a></li> </ul>	<p><b>National industry standards</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Batch-based Calculation of Sustainability Impact for Captured Fish Products</a> (NO)</li> </ul>	2, 12, 14, 16 and 17 2.5, 12.2, 12.6, 14.c, 16.6, 17.14 and 17.15	4B and 4D

E	<b>Climate change</b>	<b>Research project</b> <ul style="list-style-type: none"> <li>- <a href="#">WGIBAR ICES Working Group on the Integrated Assessments of the Barents Sea</a></li> </ul> <b>Reports</b> <ul style="list-style-type: none"> <li>- <a href="#">‘Cyclone Ockhi -Disaster risk management and sea safety in the Indian marine fisheries sector’</a></li> <li>- <a href="#">‘FAO’s work on climate change -Fisheries &amp; aquaculture 2019’ (FAO)</a></li> <li>- <a href="#">Decision-making and economics of adaptation to climate change in the fisheries and aquaculture sector (FAO)</a></li> </ul>			
F	<b>Impacts of climate change on fisheries</b>	<b>Surveillance programs</b> <ul style="list-style-type: none"> <li>- <a href="#">EAF Nansen program Ecosystem Approach to Fisheries (FAO)</a></li> <li>- <a href="#">FAO’s work on climate change Fisheries &amp; aquaculture 2019 (FAO)</a></li> <li>- <a href="#">Decision-making and economics of adaptation to climate change in the fisheries and aquaculture sector (FAO)</a></li> </ul>	<b>Adaptation toolbox for fisheries to climate change (FAO)</b> <b>LINK?</b>		
G	<b>Ensuring Biodiversity</b>				
H	<b>Covid-19</b>	<b>Resources</b> <ul style="list-style-type: none"> <li>- <a href="#">COVID-19 Task Team (FAO)</a></li> <li>- <a href="#">Coronavirus response: Fisheries and aquaculture (EC)</a></li> <li>- <a href="#">Fisheries, aquaculture and COVID-19: Issues and policy responses (OECD)</a></li> <li>- <a href="#">COVID-19 impacts on fish and aquatic food systems (WorldFish)</a></li> <li>- <a href="#">Information on COVID-19 and small-scale fisheries (FAO)</a></li> </ul>			

## Key element SAFE AQUATIC FOOD

The key element SAFE AQUATIC FOOD refers to optimising food safety as it is a prerequisite for increased consumption of aquatic food. Actions linked to this key element rely on understanding: the connection between hygienic production and foodborne illness; the connection between environmental pollution; food production and human health; how contaminants and pollutants end up in the food (value) chain; and levels of contaminants. Relevant SDGs related to this element are SDG [2](#), [3](#), [4](#), [6](#), [7](#), [8](#), [9](#), [12](#), [14](#), [16](#) and [17](#).

Challenges		Knowledge	Solutions	SDG	CF S
		<a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'	<a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>General food safety</b>	<p><b>Food standards, guides and codes of practice</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Codex Alimentarius</a> (FAO)</li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 9) (FAO)</li> </ul> <p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Illuminating hidden harvest project</a>, report due in 2020 (FAO, WorldFish and Duke University)</li> </ul>	<p><b>Food Safety Authorities (legislation, enforcement)</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food Safety Authority of Ireland</a></li> <li>- <a href="#">Norwegian Food Safety</a></li> </ul>		
B	<b>Hygiene</b>	<p><b>Food standards, guides and codes of practice</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Codex Alimentarius</a> (FAO)</li> </ul> <p><b>Cooling systems</b></p> <ul style="list-style-type: none"> <li>- <a href="#">'Cold' handling and storage systems</a> (FAO)</li> </ul> <p><b>Monitor for knowledge</b></p> <ul style="list-style-type: none"> <li>- on improved ovens for smoking, drying racks, preparation of fish powder etc. <a href="#">LINK?</a></li> <li>- on climate changes affecting preservation <a href="#">LINK?</a></li> </ul> <p><b>Research project</b></p> <ul style="list-style-type: none"> <li>- <a href="#">SmallFishFood</a></li> </ul>	<p><b>Innovation for better methods of preservation</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Streamlining fish processing- Shifting from smoking ovens to the FTT-Thiaroye system</a> (FAO)</li> <li>- <a href="#">Application of Appropriate Technology for Artisanal Fish Drying</a> (FAO)</li> </ul> <p><b>Improvement of human skills</b> to handle food</p> <ul style="list-style-type: none"> <li>- Capacity development for small-scale post-harvest and trade actors, in particular women <ul style="list-style-type: none"> <li>- <a href="#">Towards gender-equitable small-scale fisheries governance and development</a> (FAO)</li> </ul> </li> </ul>	2, 4, 7, 8, 9 and 17  2.1, 7.1, 7.a, and 7.b. 4.7, 7.a, and 9.4, 9.b, and 17.7. 4.7, 7.a, 8.2, 8.3, 9.4, 9.b, and 17.7	4A.3 and 4B

C	<p style="text-align: center;"><b>Contaminants</b></p>	<p><b>Food standards, guides and codes of practice</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Codex Alimentarius</a></li> </ul> <p><b>Increase knowledge on contamination and food safety in fish</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Dioxins and their effects on human health</a> (WHO)</li> <li>- <a href="#">Food safety fact sheet</a> (WHO)</li> </ul> <p><b>Monitoring programs</b></p> <ul style="list-style-type: none"> <li>- <a href="#">IMR seafood monitoring</a> (Norway)</li> </ul> <p><b>Feed with low levels of contaminants and pollutants</b> <a href="#">LINK?</a></p> <p><b>Connection to terrestrial industry,</b> Contaminants and pollutants from land-based industry ending up in waters</p> <ul style="list-style-type: none"> <li>- <a href="#">Water pollution from agriculture: a global review</a> (FAO)</li> </ul> <p><b>Risk-benefit reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption</a> (FAO/WHO)</li> <li>- <a href="#">A quantitative assessment of the net effects on fetal neurodevelopment from eating commercial fish</a> (US FDA)</li> <li>- <a href="#">Statement on the benefits of fish/seafood consumption compared to the risks of methylmercury in fish/seafood</a> (EFSA)</li> <li>- <a href="#">Benefit-risk assessment of fish and fish products in the Norwegian diet – an update</a> (VKM)</li> </ul>	<p><b>Developing transparent national databases</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Seafood database</a> Contaminant and nutrient levels in fish and seafood (Norway)</li> </ul> <p><b>Make research on contaminants easily accessible to public</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Contaminants in the fish caught</a> (Finland)</li> <li>- <a href="#">Seafood database</a> (Norway)</li> </ul> <p><b>Specific recommendations for eating fish and seafood from polluted areas</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Restrictions</a> from known polluted areas (Finland)</li> </ul> <p><b>Finding the source of contamination</b></p> <ul style="list-style-type: none"> <li>- <a href="#">The Hazard Analysis Critical Control Point (HACCP)-system</a> (FAO)</li> </ul> <p><b>Use sustainable and safe feed ingredients</b> <a href="#">LINK?</a></p> <p><b>Action across borders</b> ensuring healthy clean waters <a href="#">LINK?</a></p>	<p>3, 6, 12, 14, and 16</p> <p>3.b, 3.9, 3.b, and 17.18</p> <p>6.3, 12.4, 14.1, 14.c, and 14a</p>	4B.4
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D	<p><b>Consumers lack of knowledge</b></p>	<p><b>Teaching plans and information brochures</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Public education and communication</a> (FAO)</li> </ul> <p><b>Consumers and the right to adequate food</b> (two publications, handbook and directory, to be published by early 2021) <a href="#">LINK?</a></p> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 9) (FAO)</li> </ul>	<p><b>Examples from countries</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Consumer information from health and food authorities</a> (Norway)</li> </ul>		
E	<p><b>Covid-19</b></p>	<p><b>Resources</b></p> <p><a href="#">Information on COVID-19 and small-scale fisheries</a> (FAO)</p>	<p><b>Sensitization Workshop</b></p> <ul style="list-style-type: none"> <li>- <a href="#">COVID-19 sensitization for NAFPTA (National Fishworkers and Traders Association of Ghana) executives</a> (FAO)</li> </ul>		

## Key element NUTRITIOUS AQUATIC FOOD

The key element NUTRITIOUS AQUATIC FOOD concerns nutrient composition of aquatic food. Relevant, reliable and recent food composition data published open access are important for assessing the nutrient content. Also, it is important to understand how conservation, storage and preparation may influence nutrient content. Nutrient content of feed may affect the nutrient content of food. Relevant SDGs related to this element are SDG [2](#), [3](#), [4](#) and [17](#)

Challenges		Knowledge	Solutions	SDG	CFS
		<a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'	<a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>Ensuring data on nutrients in aquatic food</b>	<p><b>Collecting data</b></p> <ul style="list-style-type: none"> <li>- <a href="#">EAF Nansen program</a> Ecosystem Approach to Fisheries (FAO) <a href="#">LINK?</a></li> <li>- <a href="#">Small Fish Food</a> Interdisciplinary research project with a sub-goal of assessing nutritional quality and safety of small fish along the value chains</li> <li>- <a href="#">Blue Food Assessment</a> Paper which will compile nutrient information on aquatic foods to be released prior to the <a href="#">2021 UN Food Systems Summit</a></li> <li>- <a href="#">Illuminating hidden harvest project</a>, report due in 2020 (FAO, WorldFish and Duke University)</li> </ul>	<p><b>Databases with open access</b></p> <ul style="list-style-type: none"> <li>- <a href="#">INFOODS</a> (International Network of Food Data Systems) (FAO)</li> <li>- <a href="#">Seafood database</a> Contaminant and nutrient levels in fish and seafood (Norway)</li> <li>- <a href="#">NUTRAQUA</a> Nutritional composition of aquatic products (France)</li> <li>- <a href="#">EUROFIR</a> (European Food Information Resources) Member-based food composition datasets from 30 countries worldwide</li> </ul> <p><b>Methodology</b></p> <ul style="list-style-type: none"> <li>- build on and/or upscale on the methods used in the <a href="#">Illuminating hidden harvest project</a> (report due in 2020) in the future (FAO)</li> </ul>	2 and 17  3.d and 17.18	4A.1 and 4A.6
B	<b>Attention and literacy of aquatic food as important food sources</b>	<p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 9, 10 and 11) (FAO)</li> </ul> <p><b>Report</b></p> <ul style="list-style-type: none"> <li>- <a href="#">UNSCN Discussion paper</a> 'Aquatic foods in sustainable healthy diets', due in 2020</li> </ul> <p><b>Teaching plans and information brochures</b> <a href="#">LINK?</a></p>	<p><b>Tool for dietary reference values</b></p> <ul style="list-style-type: none"> <li>- <a href="#">EFSA's dietary reference values</a></li> </ul> <p><b>Nutrition recommendations and food based dietary guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food-Based Dietary Guidelines in Europe</a> (EFSA)</li> <li>- <a href="#">Food-Based Dietary Guidelines</a> (FAO)</li> </ul> <p><b>Dietary recommendations and advices regarding aquatic food</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Summary of FBDG recommendations for fish for the EU, IS, NO, CH, and UK</a> (EFSA)</li> <li>- <a href="#">Advice about Eating Fish</a> (US FDA)</li> </ul>	2 and 3  3.d, 2.1, 2.2, 3.b, and 3.d  4.1 and 4.7	2, 4A.1 and 4A.6



			<b>Food and nutrition programmes</b> <ul style="list-style-type: none"><li>- <a href="#">Fiskesprell</a> (Norway)</li><li>- <a href="#">A Guide to Serving Local Fish in School Cafeterias</a> (ICES, US)</li><li>- School feeding programmes (FAO) <a href="#">LINK?</a></li></ul>		
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## Key element DIETARY NEEDS

The key element DIETARY NEEDS refer to the fact that consumption of fish can play a unique role in providing healthy nutrients to reduce the burden of disease. Also, cognitive development and growth can be improved by increasing fish consumption **not only** in the first 1000 days, **but throughout adolescence**. This key element covers actions to optimise consumption of aquatic food as part of a healthy diet. Relevant SDGs related to this element are SDG [2](#), [3](#), [4](#), [5](#), [14](#) and [16](#).

Challenges		Knowledge	Solutions	SDG	CFS
		<b>CFS HLPE #7</b> 'Sustainable fisheries and aquaculture for food security and nutrition'	<b>CFS policy recommendations</b> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>Low consumption of aquatic food</b>	<p><b>Risk-benefit reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption</a> (FAO/WHO)</li> <li>- <a href="#">A quantitative assessment of the net effects on fetal neurodevelopment from eating commercial fish</a> (US FDA)</li> <li>- <a href="#">Statement on the benefits of fish/seafood consumption compared to the risks of methylmercury in fish/seafood</a> (EFSA)</li> <li>- <a href="#">Benefit-risk assessment of fish and fish products in the Norwegian diet – an update</a> (VKM)</li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 10 and 11)</a> (FAO)</li> <li>- <a href="#">Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries</a> (FAO)</li> </ul>	<p><b>Nutrition recommendations and food based dietary guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food-Based Dietary Guidelines in Europe</a> (EFSA)</li> <li>- <a href="#">Food-Based Dietary Guidelines</a> (FAO)</li> </ul> <p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">UNSCN Discussion paper</a> "Aquatic foods in sustainable healthy diets", due in 2020</li> </ul> <p><b>Dietary recommendations and advices regarding aquatic food</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Summary of FBDG recommendations for fish for the EU, IS, NO; CH and UK</a> (EFSA)</li> <li>- <a href="#">Advice about Eating Fish</a> (US FDA)</li> </ul> <p><b>Food and nutrition programs</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Fiskesprell</a> (Norway)</li> </ul> <p><b>Nutrition and dietary recommendations</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Nordic Nutrition Recommendations</a></li> <li>- <a href="#">Eating and learning together – recommendations for school meal</a> (Finland)</li> <li>- <a href="#">Health and joy from food – meal recommendations for early childhood education and care</a> (Finland)</li> <li>- <a href="#">National action plan for a healthier diet</a> (Norway)</li> </ul> <p><b>Empower women</b></p> <ul style="list-style-type: none"> <li>- <a href="#">in small scale fisheries post-harvest sector</a></li> </ul> <p><i>(See also solution to challenge B, Leaving no one behind)</i></p>	2 and 5  2.1, 2.2, 3.b, 3.d 5.5, 5.b, and 5.c	4A.1, 4A.2, 4A.6, and 4G

			<p><b>Model diets for better health</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Mediterranean and New Nordic diets</a></li> </ul> <p><b>SMART</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Norway</a> has made a SMART commitment to increase consumption of fish by 20% by 2020</li> </ul>		
<b>B</b>	<b>Visibility of aquatic food in food-based advices</b>	<p><b>Research on aquatic foods and health</b> <a href="#">LINK?</a></p> <p><b>Recommendations</b></p> <ul style="list-style-type: none"> <li>- <a href="#">CFS policy recommendations</a> ‘Sustainable fisheries for food security and aquaculture for food security and nutrition’</li> </ul> <p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Science for ocean actions</a></li> <li>- <a href="#">Eat-Lancet</a></li> </ul>	<p><b>Nutrition recommendations and food based dietary guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Food-Based Dietary Guidelines in Europe</a> (EFSA)</li> <li>- <a href="#">Food-Based Dietary Guidelines</a> (FAO)</li> </ul> <p><b>Dietary recommendations and advices regarding aquatic food</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Summary of FBDG recommendations for fish for the EU, IS, NO; CH and UK</a> (EFSA)</li> <li>- <a href="#">Advice about Eating Fish</a> (US FDA)</li> </ul> <p><b>Bringing fish as food into current and coming agendas and fora</b></p> <ul style="list-style-type: none"> <li>- <a href="#">The International Year of Artisanal Fisheries and Aquaculture 2022</a> (UN)</li> </ul>	2 and 3  2.2 2.2, 3.2, and 3.4	4A.1 and 4A.2
<b>C</b>	<b>Fake News</b>		<b>Solutions to avoid ‘fake news’ concerning fisheries and aquaculture (Brazil)</b> <a href="#">LINK?</a>		

<b>D</b>	<b>Vulnerable groups</b>	<p><b>Knowledge on food technology</b></p> <ul style="list-style-type: none"> <li>- on low-cost/small infrastructure technology for improving handling, processing, and storage <a href="#">LINK?</a></li> <li>- Processing and storage <a href="#">SmallFishFood</a></li> <li>- <a href="#">Food to suit every palate</a> (NOFIMA, NO)</li> </ul> <p><b>Knowledge on specific vulnerable groups consumption</b></p> <ul style="list-style-type: none"> <li>- Intra-household consumption (women, children)</li> <li>- <a href="#">Fish in diets of indigenous peoples</a></li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 13) (FAO)</li> </ul>	<p><b>Share recipes and products that are easier to eat</b></p> <p>Solutions for small-scale infrastructure along the value chain which small producers/processors and vulnerable groups can access and utilize in order to deliver</p> <ul style="list-style-type: none"> <li>- Safe aquatic foods <a href="#">LINK?</a></li> <li>- affordable aquatic foods <a href="#">LINK?</a></li> <li>- acceptable aquatic foods <a href="#">LINK?</a></li> <li>- convenient aquatic foods <a href="#">LINK?</a></li> </ul> <p><b>Equitable distribution of aquatic foods <a href="#">LINK?</a></b></p>		
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## Key element FOOD PREFERENCE

For many people, aquatic food is not part of the diet due to obstacles like poor quality, high prices, food culture, dietary habits, and being perceived as inconvenient. Actions to overcome these obstacles, and others, are related to this key element. Relevant SDGs related to this element are SDG [4](#), [12](#) and [16](#).

Challenges		Knowledge	Solutions	SDG	CFS
		<p><a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'</p>	<p><a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'</p>		
<b>A</b>	<b>Including aquatic foods in the sustainable diet narrative</b>	<p><b>Report</b></p> <ul style="list-style-type: none"> <li>- <a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'</li> <li>- <a href="#">Recipe for change: An agenda for a climate-smart and sustainable food system for a healthy Europe</a> (EC)</li> <li>- <a href="#">Greenhouse gas emissions of Norwegian seafood products in 2017</a> (SINTEF, NO)</li> </ul>	<p><b>Policy recommendations</b></p> <ul style="list-style-type: none"> <li>- <a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'</li> </ul>	14 14.a	4B.2
<b>B</b>	<b>Consumer education and literacy</b>	<p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Illuminating hidden harvest project</a>, report due in 2020 (FAO, WorldFish and Duke University)</li> </ul>	<p><b>Education programs</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Guide to conducting participatory cooking demonstrations</a> (FAO)</li> <li>- <a href="#">Fiskesprell</a> (Norway)</li> </ul>	4 and 16	

		<ul style="list-style-type: none"> <li>- Consumers and the right to adequate food (two publications, handbook and directory, to be published by early 2021) <a href="#">LINK?</a></li> </ul> <p><b>Guidelines</b>  <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (Guidelines 10-11, 15) (FAO)</p>	<ul style="list-style-type: none"> <li>- <a href="#">A Guide to Serving Local Fish in School Cafeterias</a> (ICES, US)</li> </ul> <p><b>Introducing neglected and underutilized species unknown to consumers</b></p> <ul style="list-style-type: none"> <li>- recipe books <a href="#">LINK?</a></li> <li>- cooking demonstrations <a href="#">LINK?</a></li> <li>- convenience products made from aquatic species <a href="#">LINK?</a></li> </ul> <p><b>Establishment of Partnerships with</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Slowfish</a></li> </ul>		
c	<p><b>Quality throughout the value chain</b></p>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>- improved processing such as drying technologies (drying racks, solar tents, solar baskets, etc.) smoking technologies (FTT and other)</li> <li>- improved storage</li> <li>- improved handling practices <a href="#">LINK?</a></li> </ul> <p><b>Cooling systems</b></p> <ul style="list-style-type: none"> <li>- <a href="#">‘Cold’ handling and storage systems</a> (FAO)</li> </ul>	<p><b>Education programs</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Fish Handling, Quality and Processing: Training and Community Trainers Manual</a> (FAO)</li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Guidelines for increasing access of small-scale fisheries to insurance services in Asia</a> (FAO)</li> <li>- <a href="#">Guidelines for micro-finance and credit services in support of small-scale fisheries in Asia</a> (FAO)</li> </ul> <p><b>Small scale infrastructure, capacity building/training, awareness raising</b> (in addition to access to finance as is noted)</p> <ul style="list-style-type: none"> <li>- post-harvest best practice work that FAO are doing under the Norad project <a href="#">LINK?</a></li> </ul> <p><b>Improve quality of fish and fish products</b></p> <ul style="list-style-type: none"> <li>- <a href="#">ProFISH</a>, an NGO including actors in the fish value chain (Finland)</li> </ul> <p><b>Collaboration with industry and Innovation</b> <a href="#">LINK?</a></p>		

D	<b>Practicality and preparation of aquatic food</b>	<b>Research project</b> <ul style="list-style-type: none"> <li>- <a href="#">Illuminating how consumers evaluate food</a> (Norway)</li> </ul> <b>Guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 10)</a> (FAO)</li> </ul>	<b>Increase consumer's knowledge of fish and fish products</b> <ul style="list-style-type: none"> <li>- <a href="#">ProFISH</a> aims to increase consumers knowledge of fish and fish products, ways to use fish and their role in nutrition (Finland)</li> </ul> <b>Promote food culture</b> <ul style="list-style-type: none"> <li>- <a href="#">Ruokatieto</a> promotes Finish food culture and makes recommendations of fish intake (Finland)</li> </ul> <b>Product development</b> <ul style="list-style-type: none"> <li>- Develop products that are easy and quick to prepare <a href="#">LINK?</a></li> </ul> <b>Information on how to prepare new species available due to climate change</b> <a href="#">LINK?</a>	4, 12, and 16	4A.1, 4A.2, 4A.6, and 4A.7
E	<b>Tradition for including aquatic food in the diet</b>	<b>Availability and consumption of fish as convenience food</b> <ul style="list-style-type: none"> <li>- <a href="#">Scientific article</a> (Brazil)</li> </ul>		12 12.a	4A.7 and 4B.2
F	<b>Consumer education and literacy</b>	<b>Consumer trust labelling</b> <ul style="list-style-type: none"> <li>- <a href="#">Codex Alimentarius</a></li> <li>- <a href="#">The Keyhole labelling</a> – regulations for healthier alternatives with the same conditions in <a href="#">Norway</a>, <a href="#">Sweden</a>, <a href="#">Denmark</a> and Iceland</li> </ul> <b>Guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 10 and 11)</a> (FAO)</li> </ul>	<b>Increase seafood consumption through expanded theoretical and practical knowledge of aquatic foods</b> <ul style="list-style-type: none"> <li>- <a href="#">Fiskesprell</a> (Norway)</li> </ul> <b>Transparency</b> <ul style="list-style-type: none"> <li>- <a href="#">Moving towards greater transparency in the seafood sector</a> (FAO)</li> </ul> <b>Trustworthy (official) sites for people to seek information</b> <a href="#">LINK?</a>	4 and 12 4.6, 4.7, and 12.8 and 16.10	4A.1, 4A.2 and 4A.6
G	<b>Preservation of aquatic food</b>	<b>Preservation techniques</b> <ul style="list-style-type: none"> <li>- <a href="#">'Cold' handling and storage systems</a> (FAO)</li> </ul>	<b>Innovation for better methods of preservation</b> <ul style="list-style-type: none"> <li>- <a href="#">Streamlining fish processing- Shifting from smoking ovens to the FTT-Thiaroye system</a> (FAO)</li> <li>- <a href="#">Application of Appropriate Technology for Artisanal Fish Drying</a> (FAO)</li> </ul>		
H	<b>Vulnerable groups</b>	<b>Convenient tasty products important to increase fish consumption</b> <a href="#">LINK?</a>	<b>Technological developments which maintain food safety and quality</b> <a href="#">LINK?</a>		

**Guidelines**

- [Voluntary Guidelines](#) on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 13) (FAO)

## Key element LEAVING NO ONE BEHIND

The key element LEAVING NO ONE BEHIND involves actions to overcome societal issues at large which hinder consumption of aquatic food in populations, like global-, regional, and national policies, investment choices, transition from green to blue, malnutrition and hunger. For example, scientific understanding underpinning solutions providing climate smart and nutritious aquatic food, can give [leverage in influencing decision-makers](#). Relevant SDGs related to this element are SDG [5](#), [8](#), [9](#), [10](#) and [14](#).

Challenges		Knowledge	Solutions	SDG	CSF
		<a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'	<a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>Equitable distribution</b>	<p><b>Whole chain</b> <a href="#">LINK?</a></p> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 10 and 11) (FAO)</li> <li>- <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (FAO)</li> </ul>	<p><b>Whole chain</b></p> <ul style="list-style-type: none"> <li>- Fair Trade US/fish <a href="#">LINK?</a></li> <li>- The Abalobi marketplace which connects fishers with consumers and restaurants etc. <a href="#">LINK?</a></li> </ul>	10	4A.1, 4A.2, and 4E
B	<b>Gender equality</b>	<p><b>Report</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Women central to the global fishing industry</a> (Norway)</li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (FAO)</li> <li>- <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (FAO)</li> <li>- <a href="#">Towards gender-equitable small-scale fisheries governance and development -A handbook</a> (FAO)</li> </ul>	<p><b>Gender specific groups and network</b></p> <ul style="list-style-type: none"> <li>- Global women fisheries network <a href="#">LINK?</a></li> <li>- <a href="#">AKTEA</a> The network of women in fisheries and aquaculture</li> <li>- <a href="#">AWFishNet</a> African Women Fish Processors and Traders Network</li> <li>- <a href="#">BIM Women in seafood</a> Ireland's Seafood Development Agency (Ireland)</li> <li>- <a href="#">#IrelandsWomenInSeafood</a> (Ireland)</li> <li>- <a href="#">Inception workshop for "Food from the Oceans" in Ghana</a></li> </ul> <p><b>Attention on gender equality</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Gender included from the 'get go' in global small-scale fisheries study</a> (WorldFish)</li> </ul> <p><b>Empower women in the trade sector</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Towards gender-equitable small-scale fisheries governance and development – A handbook</a> (FAO)</li> <li>- <a href="#">Empowering women in small-scale fisheries for sustainable food systems</a> (FAO)</li> </ul>	5, 10, and 14	4G



C	<b>Improve social protection</b>	<b>Guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (FAO)</li> <li>- <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (FAO)</li> <li>- <a href="#">General Comment (GC12)</a> The right to adequate food (FAO)</li> </ul>	<b>Initiatives</b> <ul style="list-style-type: none"> <li>- <a href="#">SeaBOS</a> Seafood Business for Ocean Stewardship</li> <li>- <a href="#">Information on COVID-19 and small-scale fisheries</a></li> <li>- <a href="#">Social protection for small-scale fisheries in the Mediterranean region</a></li> </ul>	8 and 10 10.4	4F
D	<b>Recognition of the contribution of small-scale fisheries (SSF)</b>	<b>Provide knowledge and information on SSF</b> <ul style="list-style-type: none"> <li>- <a href="#">Illuminating hidden harvest project</a>, report due in 2020 (FAO, WorldFish and Duke University)</li> <li>- <a href="#">Global Strategic Framework</a> in support of the implementation of the <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (FAO)</li> </ul> <b>Guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (FAO)</li> </ul>	<b>Implementation of guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Tanzania's implementation of SSF guidelines as pilot</a> (FAO)</li> <li>- <a href="#">Implementation of the SSF Guidelines in Eastern Africa</a> (FAO)</li> </ul> <b>Attention on SFF</b> <ul style="list-style-type: none"> <li>- <a href="#">The International Year of Artisanal Fisheries and Aquaculture 2022</a> (UN)</li> </ul>	14 14.4 and 14.6 9.3, 14.7, and 14.b	4A.7 and 4D
E	<b>Illuminating Hidden Harvests (IHH)</b>	<b>Provide knowledge and information on SSF</b> <ul style="list-style-type: none"> <li>- <a href="#">Illuminating hidden harvest project</a>, report due in 2020 (FAO, WorldFish and Duke University)</li> </ul> <b>Reports</b> <ul style="list-style-type: none"> <li>- <a href="#">Hidden harvest: global contribution of capture fisheries</a> (WorldBank)</li> </ul>	<b>Approaches and methods</b> developed under <a href="#">Illuminating hidden harvest project</a> can be replicated/upscaled to better connect fisheries and food security and nutrition data, to inform policy and action. Requires <a href="#">LINK?</a> <ul style="list-style-type: none"> <li>- capacity development <a href="#">LINK?</a></li> <li>- new partnerships between fisheries and food security <a href="#">LINK?</a></li> <li>- nutrition expertise <a href="#">LINK?</a></li> </ul>	14 14.4 and 14.6 14.6, 14.7, 14.c	
F	<b>Holistic monitoring</b>	<b>Guidelines</b> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 10-11) (FAO)</li> </ul>	<b>Holistic monitoring of resources</b> including all key elements (sufficient', 'safe', 'nutritious', 'dietary needs', 'food preferences'). <a href="#">LINK?</a>		

		- <a href="#">Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (FAO)</a>			
G	Capacity building	<p><b>Provide knowledge</b> to increase coordination between research programs of finite duration <a href="#">LINK?</a></p> <ul style="list-style-type: none"> <li>- <a href="#">EAF Nansen program Ecosystem Approach to Fisheries (FAO)</a></li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Building capacity for mainstreaming fisheries co-management in Indonesia (FAO)</a></li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (No. 11) (FAO)</a></li> <li>- <a href="#">Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (FAO)</a></li> </ul>	<b>Approaches and methods</b> developed under <a href="#">Illuminating hidden harvest project LINK?</a>	14.b	
H	Covid-19	<p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">CSF HLPE #15 Food security and nutrition -Building a global narrative towards 2030</a></li> </ul> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Information on COVID-19 and small-scale fisheries (FAO)</a></li> </ul>			

## TOWARDS COMMON GOALS

Food security is threatened in many parts of the world, and food from the oceans and inland waters is a crucial component in ensuring food security for the future. This relies on a broad multi-sectoral approach including science, policy, industry and businesses through an overarching common goal across disciplines to achieve sufficient nutritious food for everyone, linked to existing initiatives. Actions for this element may for example range from efforts to bridge the knowledge gap, form regional networks, or other initiatives carried out by different stakeholders to realize the potential of aquatic foods in food security and nutrition. Relevant SDGs related to this element are SDG [2](#), [8](#), [10](#), [12](#), [14](#), [15](#), [16](#) and [17](#).

Challenges		Knowledge	Solutions	SDG	CFS
		<a href="#">CFS HLPE #7</a> 'Sustainable fisheries and aquaculture for food security and nutrition'	<a href="#">CFS policy recommendations</a> 'Sustainable fisheries for food security and aquaculture for food security and nutrition'		
A	<b>Cross-sectoral cooperation</b>	<p><b>Reports</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Circular economy in fisheries and aquaculture areas</a></li> </ul> <p><b>Guidelines</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Voluntary Guidelines</a> on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (FAO)</li> <li>- <a href="#">Voluntary Guidelines</a> for Securing Sustainable Small-Scale Fisheries (in particular Chapter 10 on Policy coherence, collaboration and coordination) (FAO)</li> </ul>	<p><b>Make aquatic food part of food and nutrition discussions</b></p> <ul style="list-style-type: none"> <li>- <a href="#">BIM</a> (Ireland's Seafood Development Agency) invites organizations in Ireland working with seafood to meet and discuss national initiatives (Ireland)</li> </ul> <p><b>Partnerships/MoUs</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Partnership for a healthier diet</a> (Norway)</li> <li>- <a href="#">FAO-WorldFish MoU</a> on small-scale fisheries, food security and nutrition, aquaculture and value chains</li> <li>- <a href="#">FAO-Duke University MoU</a> on small-scale fisheries <a href="#">LINK?</a></li> <li>- <a href="#">FAO-MSU MoU</a> on inland fisheries <a href="#">LINK?</a></li> </ul> <p><b>Collaborations</b></p> <ul style="list-style-type: none"> <li>- <a href="#">Join the action network</a> Sustainable Food from the Oceans and Inland Waters for Food Security and Nutrition to facilitate connections between partners</li> <li>- <a href="#">Join the 'Too Big To Ignore' research network</a> on small-scale fisheries <a href="#">LINK?</a></li> <li>- <a href="#">FAO, WorldFish and Duke University collaboration</a> on <a href="#">Illuminating Hidden Harvest project</a></li> <li>- <a href="#">Global Salmon Initiative</a></li> </ul>	2, 12, 14 and 15 2.4, 2.a, 14.4, 12.4, 14.1, and 14.3	4A.1, 4A.6 and 4B.4 4A.1, 4A.6 and 4B.4

			<ul style="list-style-type: none"> <li>- Europe needs a group like <a href="#">Seafood Nutrition Partnership in the USA</a></li> </ul> <p><b>Declarations</b></p> <ul style="list-style-type: none"> <li>- <a href="#">The International Year of Artisanal Fisheries and Aquaculture 2022 (UN)</a></li> </ul> <p><a href="#">Bluing the green - greening the blue</a> 'A common "Land and Sea" language for a Circular Food System' (The Netherlands)</p> <p><a href="#">Policy briefs</a> 'Linkages between the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication and the Framework for Action for Food Security and Nutrition in Protracted Crises' (FAO)</p>		
B	<b>Trust and transparency of the aquaculture and fisheries industry</b>		<p><b>Secure transparency</b></p> <ul style="list-style-type: none"> <li>- <a href="#">SeaBOS</a> (Seafood Business for Ocean Stewardship)</li> <li>- <a href="#">Sustainability Report</a> from <a href="#">Global Salmon Initiative</a></li> </ul>	8, 10, 12, 16, and 17 8.7, 10.4, 12.6, 16.5, 16.6, and 17.6	4F