E

联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Alimentación y la Agricultura | منظمة الأغذية والزراعة للأمم المتحدة

CONFERENCE

Forty-third Session

Rome, 1-7 July 2023

Biennial Theme 2024-25: Water resources management for the four betters: better production, better nutrition, better environment and better life, to achieve Agenda 2030 and the Sustainable Development Goals

Executive Summary

Water is the lifeblood of the earth and is central to the entire 2030 Agenda for Sustainable Development. Yet, we are facing a global water crisis. Currently, 2.3 billion people live in water-stressed countries, of whom more than 733 million live in arid countries with high and critical water stress. Urgent action, strong political will and enhanced financing are needed to value and manage freshwater in an integrated manner to achieve all the Sustainable Development Goals.

Agriculture, accounting for 72 percent of global freshwater withdrawals, is central to address this challenge. Worldwide, countries are experiencing water scarcity, droughts and/or floods, aggravated by climate change, while at the same time water quality is deteriorating. All these water challenges pose threats to livelihoods, agricultural production including inland fisheries and aquaculture, food security, nutrition and the environment. Integrated water resources management in agriculture, for agriculture and by agriculture is integral and strategic to achieving each of the *four betters - better production*, *better nutrition*, a *better environment*, and a *better life*, leaving no one behind.

Suggested action by the Conference

The Conference is invited to:

- recognize FAO's broad mandate in promoting integrated water resources management in achieving its purposes, as defined in the Basic Texts, especially in ensuring food security and nutrition for all, bettering the living conditions of rural populations and improving standards of living, while conserving and sustainably managing water and other natural resources;
- welcome the suggested programmatic initiatives on water, and request FAO to fully integrate them in the areas of water, land, climate change, biodiversity, crop and livestock production,

forestry, fisheries and aquaculture, agrifood systems, disaster risk reduction, emergency preparedness and response, and resilience building;

- request FAO to enhance partnerships and mobilize resources to implement these programmatic initiatives on integrated water resources management, including from international financial institutions, resource partners and Members through voluntary contributions; and
- approve the proposed theme on "Water resources management for the four betters: better production, better nutrition, better environment and better life, to achieve Agenda 2030 and the Sustainable Development Goals" for Governing Bodies' sessions to be held during the 2024-25 biennium.

Queries on the substantive content of this document may be addressed to:

Maria Helena Semedo
Deputy Director-General
Tel: +39 06570 52060
Email: DDG-Semedo@fao.org

I. Background

1. Water is the lifeblood of the earth and is central to the entire 2030 Agenda for Sustainable Development (UN-Water, 2016). Water underpins all the Sustainable Development Goals (SDGs), in particular SDG 1 (No poverty), SDG 2 (Zero hunger), SDG 3 (Good health and well-being), SDG 4 (Quality education), SDG 5 (Gender equality), SDG 6 (Clean water and sanitation), SDG 7 (Affordable and clean energy), SDG 11 (Sustainable cities and communities), SDG 12 (Responsible consumption and production), SDG 13 (Climate action), SDG 14 (Life below water), SDG 15 (Life on land) and SDG 16 (Peace, justice and strong institutions). With a rapidly growing global population, economic development and urbanization, there are increasing and competing demands for freshwater for all sectors and the environment, while resources are becoming increasingly scarce. Urgent action, strong political will and enhanced financing are needed to value and manage freshwater in an integrated manner.

2. Addressing the triple global water crises (increasing water scarcity and more frequent and severe droughts, more frequent and severe floods and increasing water pollution) is essential for achieving the 2030 Agenda for Sustainable Development. Currently, 2.3 billion people live in water-stressed countries, of whom more than 733 million - approximately 10 percent of the global population - live in arid countries with high and critical water stress (FAO and UN-Water, 2021).

3. Some 1.81 billion people are directly exposed to floods, which pose significant risk to lives and livelihoods, with global flood losses of around USD 20 billion in 2021 (Swiss Re, 2022). Those who rely on agriculture for their livelihoods are often the worst affected, potentially putting their livelihoods, food security and nutrition at serious risk. Between 2008 and 2018, disasters caused declines in crop and livestock production worth USD 280 billion globally (FAO, 2021). Globally, 80 percent of wastewater flows back into the ecosystem without being treated or reused (WWAP/UN-Water, 2017), contributing to a major threat to human health, food safety and food security where irrigation is practiced. With over 95 percent of food being produced on land with water, agriculture accounts for 72 percent of global freshwater withdrawals (FAO, 2020) and hence is central to address these crises. The strategic question for FAO is how to ensure food security for all in the context of the triple water crises.

4. Climate change urgently requires the development and scaling-up of innovative approaches and increased investments in agriculture and water systems, to adapt to climate impacts and to build resilience in agriculture and rural areas, as well as to reduce greenhouse gas emissions. Climate change is projected to result in more frequent and intense droughts and floods in different regions. The year 2022 witnessed the greatest water challenges and climatic extremes. The floods in Australia, Pakistan and African countries took thousands of lives, destroying agriculture, villages, towns and other infrastructure, while the droughts in China, the United States of America, South America, East Africa and Europe massively affected agricultural production and livelihoods.

5. There is an increased need for better water management in agriculture, for agriculture and by agriculture, recognizing the critical linkages between water, land, climate change, ecosystems, biodiversity, energy, agricultural sectors (crops and livestock production, forestry, fisheries and aquaculture) and food security. Growing demand for water by all sectors triggers the need for understanding the trade-offs and (re-)allocating water through multi-stakeholder dialogues, greater infrastructure investments and effective management, better information and science, innovation and technologies, and stronger capacity and adaptability. In the absence of effective and inclusive governance, increased competition for freshwater can exacerbate already severe inequalities in access and inefficiency in use. Those most at risk are the poorest and most vulnerable groups, such as smallholder farmers, fishers, pastoralists, Indigenous Peoples, youth and women. In the worst cases, increased competition can lead to conflicts at all levels.

II. FAO's mandate for working on water

6. The Preamble to the FAO Constitution refers to "[…] raising levels of nutrition and standards of living of the peoples […]", "securing improvement in the efficiency of the production […]", and "bettering the condition of rural populations", thus "contributing towards an expanding world

economy and ensuring humanity's freedom from hunger". The delivery of such high purposes depends on an abundance of clean and safe water for agricultural production, food, nutrition and living conditions of the rural population. Article I, *The Functions of the Organization* further states that "[…] the Organization shall promote and, where appropriate, shall recommend national and international action with respect to […] the conservation of natural resources and the adoption of improved methods of agricultural production" (FAO, *Basic Texts* 2017). Accordingly, Goal 3 of FAO Strategic Framework 2022-31 calls for "sustainable management and utilization of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations" (FAO, *Strategic Framework 2022-31* 2021). Hence water is integral to achieving ***better production***, ***better nutrition***, a ***better environment***, and a ***better life***, leaving no one behind. Table 1 illustrates some examples of water-related actions that contribute to the Programme Priority Areas (PPAs) under the *four betters*.

7. The *four betters* show how FAO intends to contribute directly to SDG 1 (No poverty), SDG 2 (Zero hunger), and SDG 10 (Reduced inequalities), as well as to supporting the achievement of the broader SDG agenda. The *four betters* reflect the interconnected economic, social and environmental dimensions of agrifood systems, requiring a strategic and systems-oriented approach. Strategic and integrated water resources management (IWRM) for agriculture needs to contribute to the achievement of each of the *four betters*, while considering its own impact on global and local water cycles.

8. **Better Production:** Agricultural water use - in particular irrigation - plays a key role in increasing crop yields and productivity (including through multiple crops per year) and improving livelihoods. Crops, livestock, inland fisheries and aquaculture, and agroecosystems require sufficient clean freshwater, soil moisture and atmospheric moisture in order to thrive. Extreme events such as floods, droughts, storms, hurricanes, landslides and wildfires damage agriculture infrastructure and assets and reduce agricultural production. FAO seeks to:

- Increase and sustain water productivity and water use efficiency of both rainfed and irrigated agroecosystems, generating livelihood and nutrition benefits with a focus on smallholder farmers, vulnerable groups and rural communities.
- Improve resilience of smallholder farmers and their production systems to increased climate variability and extreme climate events such as floods and drought, through adaptive water management and disaster risk management measures, including through ecosystem-based approaches and other innovative solutions.
- Improve the efficiency in production of crops and livestock, inland fisheries and aquaculture, and reduce negative impacts on water.
- Strengthen the safe use of non-conventional water resources in agriculture, such as treated recycled wastewater and saline water, in areas where agricultural production is water-constrained.
- Prevent and reduce food loss and waste, which represent a significant waste of water used in production.

9. **Better Nutrition**: Agricultural water use is vital to supporting better human health and nutrition through the production of nutritious food. Water management strategies should increase food productivity and improve food security and nutrition. FAO seeks to:

- End hunger, achieve food security and improved nutrition in all its forms, including promoting nutritious food and increasing access to healthy diets, while optimizing the volume and quality of water used in agrifood production systems.
- Build resilience and expand the range of nutritious crops, animals, aquaculture species and varieties.
- Reduce water pollution, thereby avoiding negative impacts on human, animal and ecosystem health. It is especially important to reduce the incidence of diarrhea in infants and children, which is a key cause of malabsorption of nutrients.

10. **Better Environment**: A better environment means protecting and sustainably managing and using marine, freshwater, forest and other terrestrial ecosystems and associated natural resources including water. Improving the management of soils, land, forests, lakes, rivers and wetlands helps to reduce and manage flood risks and droughts and their impacts, increase water harvesting, infiltration and soil moisture retention, recharge aquifers, and contribute to water atmospheric circulation as well as the stability of local water cycles and microclimates. Better water management maintains river flows, improves water quality, quantity and timing in rivers, aquifers and other inland water bodies as well as in coastal areas, while contributing to prevent water pollution. These, in turn, contribute to the conservation and sustainable management of biodiversity. FAO seeks to:

- Protect, restore and sustainably use terrestrial, freshwater and marine ecosystems and resources, and combat climate change including through an agrifood system approach.
- Maintain and sustainably use biodiversity for food and agriculture and ensure the provision of ecosystem services from terrestrial, freshwater and marine ecosystems.
- Restore degraded productive systems taking into account their contributions to and impact on water-related ecosystem services.
- Prevent land degradation and desertification through conservation, restoration and sustainable use.
- Support sustainable food production in increasingly saline environments while restoring and/or protecting productive natural resources affected by salinity and water scarcity.

11. **Better Life**: A better life means ensuring access to clean water and sanitation, food security and adequate nutrition, increasing the income and improving living conditions of farmers and rural communities; securing land and water tenure and access to other natural resources, which allow building of prosperous and peaceful communities; and ensuring women's rights and reducing gender inequalities, benefiting thus the wellbeing of the overall community. FAO seeks to:

- Support Members to strengthen governance of water resources through improved water tenure, providing access to and sustainable use of water resources by smallholder farmers, fishers and vulnerable groups.
- Support Members to reduce and manage water-related risks such as flood and drought risks, and prevent conflicts due to competition over water resources.
- Improve human, plant and animal health through reducing water pollution from nutrients, pesticides and other materials leaching from land, and prevent antibiotics and other chemicals used in livestock, crop and aquatic food production from entering the natural water systems.

Table 1 Illustrative contributions of water-related actions to all Programme Priority Areas (PPAs)

	PPA	Description	Examples of water related action areas
Better Production	BP1:	Innovation for sustainable agriculture production	Increase crop water productivity and water use efficiency
	BP2:	Blue transformation	Provide water in time and quality for inland aquatic food systems
	BP3:	One Health	Improve water quality to prevent and address water related diseases
	BP4:	Small-scale producers' equitable access to resources	Enhance equitable access of small-scale producers and family farmers to water resources
	BP5:	Digital agriculture	Increase easy access to digital public goods to improve agricultural water management
Better Nutrition	BN1:	Healthy diets for all	Enhance access to safe water for healthy food preparation
	BN2:	Nutrition for the most vulnerable	Enhance easy access to affordable safe water
	BN3:	Safe food for everyone	Improve water treatment to ensure safe water for food production and processing
	BN4:	Reducing food loss and waste	Reduce water footprint by reducing food loss and waste
	BN5:	Transparent markets and trade	Improve understanding of virtual water trade
Better Environment	BE1:	Climate change mitigating and adapted agrifood systems	Promote climate smart water use to support climate change mitigation and adaptation
	BE2:	Bioeconomy for sustainable food and agriculture	Reduce water contamination by using more sustainable agricultural practices
	BE3:	Biodiversity and ecosystem services for food and agriculture	Develop solutions to maintain and restore environmental flows
	BE4:	Achieving sustainable urban food systems	Support safe use of treated urban waste water in agriculture
Better Life	BL1:	Gender equality and rural women's empowerment	Support mainstreaming gender in water policies
	BL2:	Inclusive rural transformation	Facilitate water tenure dialogues
	BL4:	Agriculture and food emergencies	Support emergency response to floods and droughts
	BL5:	Resilient agrifood systems	Promote climate smart water use to make agrifood systems more resilient
	BL6:	Hand-in-Hand (HIH) Initiative	Support the HIH Initiative geospatial platform with water related data
	BL7:	Scaling up investment	Facilitate investment strategies for sustainable irrigation systems

12. FAO applies four cross-cutting "accelerators", namely technology, innovation, data and complements (governance, human capital and institutions), in all its programmatic interventions, to accelerate impact while minimizing trade-offs. In particular, technological and financial innovations need to be introduced at local levels to encourage more efficient storage, use, recycling and reuse of water. Also, the collection and sharing of accurate data on water, soil, land, agricultural subsectors (including crops and livestock production, forestry, fisheries and aquaculture), etc. are key to better water management. Finally, improved agricultural water management of surface water, groundwater and green water[1], strong institutions and human capital, and multi-stakeholder dialogues over water

1. Green water is water from precipitation that is stored in the root zone of the soil and evaporated, transpired or incorporated by plants. It is particularly relevant for agricultural, horticultural and forestry products. For more details, see: http://waterfootprint.org/en/water-footprint/what-is-water-footprint/. WWAP (United Nations World Water Assessment Programme)/UN-Water. 2018. The United Nations World Water Development Report 2018: Nature-Based Solutions for Water. Paris, UNESCO.

through the National Water Roadmaps are urgently needed to enable better and integrated water resources management.

13. UN-Water is the inter-agency mechanism which coordinates the United Nations' work on water and sanitation. Established in 2003 by the UN System Chief Executives Board, UN-Water is comprised of 35 United Nations entities (members of UN-Water), including FAO, and 40 other international organizations (Partners of UN-Water) working on water and sanitation issues. UN-Water's role is to ensure that UN-Water members and partners "deliver as one" in response to water-related challenges. UN-Water acts as the monitoring and reporting hub for SDG 6 and its targets and indicators, through its Integrated Monitoring Initiative. Under this mechanism, FAO is the custodian for the following SDG 6 indicators: 6.4.1 (Change in water-use efficiency over time) and 6.4.2 (Levels of water stress: freshwater withdrawal as a proportion of available freshwater resources), thus leading the global monitoring and reporting of these two indicators.

14. The UN 2023 Water Conference was convened from 22 to 24 March 2023 at United Nations Headquarters in New York, United States of America. FAO was actively engaged in the Conference, submitting seven commitments that contribute to the Water Action Agenda[2] and accelerate change to solve the water-food-climate-biodiversity crises:

(1) National Water Roadmaps towards the 2030 Agenda;
(2) Global Dialogue on Water Tenure;
(3) Financing integrated drought management;
(4) Global irrigation needs & potential mapping;
(5) Global Water Data Portal;
(6) Remote Sensing Technologies for Water Productivity;
(7) Global Framework on Water Scarcity in Agriculture (WASAG) and Praia Call for Action.

15. These commitments are included in the list of over 700 commitments capturing the key outcomes of the Conference aimed at driving transformation from a global water crisis to a water-secure world and accelerating the SDGs progress. The Conference also suggested to appoint a UN Secretary-General (UNSG) Special Envoy on Water; to incorporate water in the High-level Political Forum on Sustainable Development in June 2023, the Sustainable Development Summit in September 2023, the Summit of the Future in 2024, and the World Social Summit in 2025; to organize the Third UN Water Conference before 2028, as well as to bring water into other global processes on climate change, desertification, biodiversity, energy, food, etc.

III. Water in the agendas of FAO Governing Bodies

16. The 133rd Session of the Programme Committee[3]: welcomed the timely and strategic *Evaluation of FAO's contribution to availability and sustainable management of water and sanitation for all (SDG 6) and Management Response* and Management's acceptance of the majority of the recommendations; underlined the fundamental importance of sustainable management of water resources to FAO's core mandate and the need for the Organization to articulate a strategic and coherent approach to water-related activities; stressed the urgent need to address the links between agriculture and water quality and pollution, within FAO's mandate, in collaboration with relevant UN agencies and called for water issues to be considered with a cross-sectoral perspective within FAO's mandate, in particular by encouraging its discussion by relevant Governing Bodies.

17. The Committee on Agriculture (COAG), at its 28th Session[4], recommended FAO to step up the work of the Global Framework on Water Scarcity in Agriculture (WASAG), of water tenure for the sustainable management of natural resources; recommended FAO, in close collaboration with relevant UN agencies, to support Members, upon request, in building and developing capacities to

2. https://sdgs.un.org/conferences/water2023/action-agenda
3. https://www.fao.org/3/nj232en/nj232en.pdf
4. https://www.fao.org/3/nj925en/nj925en.pdf

produce data on available and actual use of water resources for agriculture; recommended FAO, in close collaboration with relevant UN agencies, to initiate a Global Dialogue on Water Tenure on matters that include water rights' administration, tenure arrangements within water user organizations, and to provide regular updates to COAG; encouraged Members to participate in a series of exchanges among countries at regional and global levels, including through the Global Dialogue on Water Tenure, in identifying principles for the responsible governance of water tenure. Furthermore, the COAG Sub-Committee on Livestock at its first Session, recommended COAG to call on Members to include sustainability, productivity, competitiveness, and resilience aspects of livestock systems in their policy agendas, and formulate holistic and balanced development programmes and strategies that favour the adoption of low-emissions practices, while considering biodiversity, water and soil quality, and ecosystem services according to national and local contexts, reflecting the diversity of livestock production systems among different regions.

18. The 171st Session of the FAO Council[5] recommended the Conference to approve that: the theme of the General Debate at the 43rd Session of the Conference, as well as the biennial theme for 2024-25, be "Water resources management for the four betters: better production, better nutrition, better environment and better life, to achieve Agenda 2030 and the Sustainable Development Goals". The Council appreciated document CL 171/6, *Integrated water resources management for food security and climate resilience*, and in particular within the mandate of FAO: a) reiterated the importance of water resources management for sustainable food systems, food security, food safety, and climate resilience, and welcomed the initiative to develop and implement sustainable agricultural water management for promoting mitigation and adaptation to climate change, and addressing the impacts of water scarcity, drought and floods on agrifood systems as guided by the FAO Strategy on Climate Change 2022-2031.

19. The FAO Council noted, in line with the 2030 Agenda and its Sustainable Development Goals (SDGs), the need to respect the rights of individuals with respect to water, and acknowledged in this regard the importance of FAO's initiatives on the complexity of water access, water tenure, and sustainable water management and allocation systems. The Council also underscored the importance of science and innovation to support strengthening integrated water resources management, guided by the FAO Science and Innovation Strategy and the FAO Strategy on Climate Change.

20. The FAO Council recommended FAO to step up the work on the Global Framework on Water Scarcity in Agriculture (WASAG) to support Members, upon request, in building and developing capacities to produce data on available and actual use of water resources for agriculture, and in collaboration with relevant UN bodies to initiate a global dialogue on water tenure; and recommended FAO, in close collaboration with relevant UN agencies, to support Members, upon request, in their country-led efforts to conduct national water dialogues and develop their national water roadmaps towards the SDGs, as well as building and developing capacities, technical support, research and innovation, and to produce data on water resources for agriculture, as appropriate.

21. Finally, the FAO Council underlined the need for FAO to analyse the resources needed to implement programmatic actions on IWRM with sufficient resources, including from global financial institutions, resource partners and voluntary contributions by Members.

22. The Committee on World Food Security (CFS), at its 42nd Session in 2015[6], endorsed the following recommendations on Water for Food Security and Nutrition (FSN):

- Promote sustainable management and conservation of ecosystems for the continued availability, quality and reliability of water for FSN.
- Improve coherence between water and FSN related policies, strategies and plans.
- Achieve equal access to water for all, prioritize the most vulnerable and marginalized at all ages and empower women and youth.

5. https://www.fao.org/3/nl148en/nl148en.pdf
6. https://www.fao.org/3/mo943e/mo943e.pdf

- Improve the efficiency and diversity of water use and the productivity of agricultural systems for FSN.
- Manage risk and increase resilience to water variability for FSN.
- Develop and share knowledge, technologies and tools related to water for FSN.
- Foster inclusive and effective collaboration and national and local governance on water for FSN.
- Promote the full and meaningful implementation of international human rights obligations and instruments as they relate to water for FSN.

23. The 2021 Declaration of the Committee on Fisheries (COFI) for Sustainable Fisheries and Aquaculture[7] noted the need to:

- ***Support*** the implementation of integrated and coordinated multi-sectoral, evidence and ecosystem based management approaches, as well as temporal and spatial planning, noting that our efforts would be implemented in the context of growing external pressures in marine and inland aquatic systems, such as pollution in all its forms, unregulated practices, natural disasters, climate change, biodiversity loss, increased competition for the use of marine and coastal areas and other demands over freshwater and land access.

24. The 23rd Session of the Committee on Forestry (COFO)[8] held in July 2016 requested FAO to support interested countries in: (i) developing integrated land use planning as a strategic framework that takes into account the important role of forests in the water cycle, soil conservation, carbon sequestration and habitat protection, thus safeguarding their contributions to sustainable agriculture and food security in order to support the achievement of the SDGs.

IV. Water in FAO's future work

25. Considering FAO's mandate in working on water, land and agriculture in addressing the global water-climate-biodiversity crises and achieving food security, FAO is in a unique position to support IWRM and to scale up agricultural solutions that link water with climate change action, disaster risk reduction, forest management, ecosystem restoration, biodiversity, soil and land management, nutrition, food safety, antimicrobial resistance, and One Water One Health to achieve interwoven benefits and reduce further water risks.

26. The FAO Strategy on Climate Change 2022-2031 aims to address a broad range of interlinked challenges, including the loss of biodiversity, desertification, land and environmental degradation, the need for accessible, renewable energy, and food and water security. It notes that FAO is one of the leading custodian agencies for the SDG indicators (under SDGs 2, 5, 6, 12, 14 and 15) and the most comprehensive source of agriculture, forestry, fisheries, aquaculture, food, soils, water and socioeconomic statistics. The Strategy states that FAO will support the integration of agrifood systems in climate action, by advocating for building the food-water-energy-forest nexus to improve access to sustainable energy and energy efficiency and to enhance sustainable water management for adaptation across all agrifood systems, and commits FAO to enable local stakeholders to directly benefit from the adoption of inclusive, climate-resilient and low-emission agrifood practices and approaches in farms, watersheds, landscapes and seascapes along the food value chains.

27. Building upon FAO's rich experience and comprehensive work on water, and following the guidance provided by the Governing Bodies as aforementioned, a suite of programmatic water initiatives (including those suggested in document CL 171/6) will be implemented in partnership with Members and partners including within the framework of UN-Water, to advance effective water management in agrifood systems for food security and climate resilience, including to:

7. https://www.fao.org/3/cb8322en/cb8322en.pdf
8. https://www.fao.org/3/mr526e/mr526e.pdf

a) develop a digital Soil-Land-Water Information System (SoLaWISe) for major crops at global and national levels, to provide timely and quality information and support decision makers and farmers in making informed decisions on soil, land and water resources;

b) implement the new initiative AWSAME — addressing water scarcity for agriculture and environment, scaling out the solutions developed by WASAG and regional water scarcity initiatives, and strengthening institutional capacities of Members through the FAO inter-Regional Technical Platform on Water Scarcity;

c) develop a Global Water Data Portal building upon AquaStat and the FAO water portal to monitor Water Productivity through Open access and Remotely sensed derived data (WaPOR) to provide comprehensive and quality data for effective agricultural water management and contribute to the Global Water Information System as recommended at the UN 2023 Water Conference;

d) ensure that inland fisheries and freshwater aquaculture development efforts, capacity building and data collection systems specifically include information on water needs, water use and water quality;

e) Promote integrated management of water resources and inland aquatic ecosystems to support inland fisheries and freshwater aquaculture, while addressing the potential environmental impacts;

f) assess and map global irrigation needs and potential to address water scarcity and drought impacts on agriculture, including fisheries and aquaculture, in a changing climate and to meet the needs for irrigation and other water services in many developing countries;

g) support Members to share data and information on floods and conduct a global assessment of flood risks to agriculture and food security, to inform the design of policies and practices in the future;

h) facilitate knowledge sharing among Members and support the scaling-up of innovative solutions that optimize use of flood water as resources for flood-adaptive/resilient agriculture;

i) develop innovative solutions to address water quality and reduce pollution caused by agrifood systems, within FAO's mandate, in collaboration with relevant agencies;

j) improve nutrition, dietary quality and diversity and profitability of smallholder farmers and fishers by strengthening their capacities to adopt sustainable management of water, soil, and good practices that contribute to increased yields, crop diversification, crop-livestock-fish integration and quality of production in terms of nutrient content and economic value;

k) improve the knowledge base, increase capacity and support Members, upon request, to conserve, restore and sustainably manage and use forests for water-related services, including through the development of monitoring tools, knowledge products and technical support initiatives;

l) conduct a comprehensive assessment of water use for livestock production systems along the production chain (including water used for feed production) to inform the design and development of policies and practices in the future;

m) develop and implement climate and disaster risk reduction actions for effective agricultural water management across all agrifood systems, addressing the impacts of water scarcity, drought and floods on agrifood systems, as guided by the FAO Strategy on Climate Change 2022-2031;

n) strengthen support to Members, upon request, in resource mobilization efforts to address water resources management-related challenges, including through the Green Climate Fund, the Adaptation Fund and the Global Environment Facility;

o) organize Rome Water Dialogues annually to catalyse innovation and mobilize political will towards IWRM for food security and climate resilience;

p) support Members, upon request, to improve coherence among water-related activities between agriculture and other sectors through the IWRM approach;

q) upon request, support the development of National Water Roadmaps towards *2030 Agenda* through country-led dialogues and participatory processes; and

r) support Members, upon request, to actively engage and drive, when appropriate, the technical and political processes on water tenure, and organize global dialogues on water tenure, in support of effective and inclusive water governance.

28. These initiatives will support FAO Members in their transition to MORE efficient, inclusive, resilient and sustainable agrifood systems as outlined in the FAO Strategic Framework 2022-31, and contribute to the five objectives of integrated land and water resources management:

- Effective and inclusive soil, land and water governance
- Conservation, restoration and sustainable use of soil, land and water resources
- Increased adaptation and resilience to climate change and reduced greenhouse gas emissions
- Integrated soil-land-water solutions
- Optimized soil-land-water data and information systems for agrifood system transformation.

References:

FAO, 2017. *Basic Texts of the Food and Agriculture Organization of the United Nations. Volumes I and II. 2017 Edition*. Rome.

FAO, 2020. *The State of Food and Agriculture 2020. Overcoming water challenges in agriculture*. Rome.

FAO, 2021. *The impact of disasters and crises on agriculture and food security*. FAO. Rome. https://doi.org/10.4060/cb3673en.

FAO and UN-Water, 2021. *Progress on Level of Water Stress. Global status and acceleration needs for SDG Indicator 6.4.2, 2021*. Rome. https://www.fao.org/3/cb6241en/cb6241en.pdf.

Swiss Re, 2022. *Natural catastrophes 2021: flood gates are open.* Zurich. https://www.swissre.com/dam/jcr:326182d5-d433-46b1-af36-06f2aedd9d9a/swiss-re-institute-sigma-natcat-2022-en.pdf.

UN-Water, 2016. *Water and Sanitation Interlinkages across the 2030 Agenda for Sustainable Development.*

WWAP (World Water Assessment Programme)/UN-Water, 2017. *The United Nations World Water Development Report 2017: Wastewater: The Untapped Resource*. Paris, UNESCO.