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Organisation des Nations Unies pour l'alimentation сельскохозяйственная организация et l'agriculture

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# JOINT MEETING

Hundred and Thirty-seventh Session of the Programme Committee and Hundred and Ninety-eighth Session of the Finance Committee

Rome, 6 November 2023

## **Implementation of integrated water resources management:** progress and needs

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

Mr Lifeng Li Director, Land and Water Division Tel: +39 06570 52243 Email: lifeng.li@fao.org

Documents can be consulted at <u>www.fao.org</u>

#### EXECUTIVE SUMMARY

- This document provides an update on the progress made on integrated water resources management (IWRM) and the needs to implement IWRM across the Food and Agriculture Organization of the United Nations (FAO), following the recommendations made by the Joint Meeting of the 134th Session of the Programme Committee and 194th Session of the Finance Committee and decisions of the 171st Session of the Council and the 43rd Session of the FAO Conference.
- Progress made includes: implementation of programmatic initiatives on water scarcity, drought and floods, water productivity, among others, as well as the organization of and participation in a series of regional and global events related to water, e.g. the first Rome Water Dialogue, the 28th Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP28), the 15th Conference of Parties to the Convention on Biological Diversity (CBD COP15), the 2nd International Forum on Water Scarcity in Agriculture, the regional workshop for Africa on National Water Roadmaps, the UN 2023 Water Conference, and the organization of three High-Level Ministerial Roundtables during the 43rd Session of the FAO Conference.
- While the priorities for 2024-2025 remain largely the same, the document also highlights a number of needs in order to accelerate and scale-up implementation of the recommendations made by the Governing Bodies, namely, strengthening technical capacities in both FAO headquarters and Decentralized Offices (in particular the Regional and Subregional Offices), staffing and capacity; and include water as a priority for collaboration with all resource partners to scale-up extra-budgetary resource mobilization, partnerships and corporate support to implement IWRM.

### **GUIDANCE SOUGHT FROM THE JOINT MEETING**

The Committee is invited to take note of the information provided in this document, and provide guidance as deemed appropriate.

#### **Draft Advice**

#### The Joint Meeting:

- appreciated the update provided and acknowledged the progress made on FAO's work on IWRM through normative work, integration within the Programme Priority Areas (PPAs), and FAO's engagement and actions in global fora;
- recognized the needs identified in this document for accelerating and scaling up FAO interventions on IWRM from global to local level;
- encouraged FAO to include water as a priority for collaboration with all resource partners to scale-up extra-budgetary resource mobilization, partnerships and corporate support to implement IWRM; and
- recommended FAO to provide updates on IWRM including on the programmatic initiatives, resources, partnerships and collaboration to Governing Bodies during the biennium 2024-2025.

## I. Background

1. The document CL 171/6, *Integrated water resources management for food security and climate resilience*<sup>1</sup> was presented and discussed in the Joint Meeting of the 134th Session of the Programme Committee and 194th Session of the Finance Committee.

2. The present document summarizes progress made after the Joint Meeting of the 134th Session of the Programme Committee and 194th Session of the Finance Committee, as well as highlights the needs to further implement Integrated Water Resources Management (IWRM) in FAO following the decisions made by the 171st Session of the Council, and the 43rd Session of the Conference.

## II. Update on FAO's actions on integrated water resources management in agrifood systems

## A. Mainstreaming water into FAO's Programme Priority Areas (PPAs) and normative work

3. Following the recommendations made at the 133rd Session of the Programme Committee and the Management Response to the Evaluation of FAO's Contribution to Availability and Sustainable Management of Water and Sanitation for all (SDG 6)<sup>1</sup>, a conceptual framework on integrated land and water resources management has been drafted in consultation with FAO's technical divisions, Decentralized Offices and external experts. This conceptual framework is submitted to the 137th Session of the Programme Committee to seek guidance (see document PC 137/6). Once finalized, this conceptual framework will enable the mainstreaming of IWRM into all relevant PPAs.

4. **AWSAMe:** The inception activities of the Value-Added Impact Area (VAIA) on Addressing Water Scarcity in Agriculture and the environment (AWSAMe) have started with the ongoing development of four global project proposals to promote drought resilient, nutritious, indigenous crops to cope with water scarcity. In addition, collaboration is currently taking place with the inter-Regional Platform on Water Scarcity (iRTP-WS) to develop knowledge products to respond to identified gaps. AWSAMe will also collaborate with external partners to develop project proposals on agreed priorities.

5. **AQUASTAT**: The new AQUASTAT<sup>2</sup> Dissemination Platform is now available, resulting in improved speed and responsiveness for data download with a more user-friendly interface. FAO's custodian indicators' reporting on SDG 6.4 target on the change in water use efficiency (SDG 6.4.1) and the level of water scarcity (SDG 6.4.2) were used in the preparation of the new UN-Water SDG 6 Synthesis and progress reports<sup>3</sup> launched in July 2023 at the High-Level Political Forum. AQUASTAT has also developed its geospatial platform – AQUAMAPS<sup>4</sup> – in order to complement the statistical data with disaggregated geospatial data.

6. **SoLaWISe**: The first phase of the Soil-Land-Water Information System (SoLaWISe) initiative was launched and supported by USD 500 000 from FAO's Flexible Multi-partner Mechanism (FMM) for 2023. The initial countries have been selected for the development of the methodological framework and related tools across four regions: Mozambique in sub-Saharan Africa (RAF), Pakistan for Asia and the Pacific (RAP), Colombia for Latin America and the Caribbean (RLC) and Tunisia for the Near East and North Africa (RNE) regions. A capacity needs assessment has been initiated in these countries in order to formulate capacity development programmes for targeted stakeholders.

7. **WaPOR**: Major preparations are under way to expand WaPOR (Water Productivity through Open access of Remotely sensed derived data) for a global coverage to be delivered by the end of

<sup>&</sup>lt;sup>1</sup> https://www.fao.org/3/nk446en/nk446en.pdf

<sup>&</sup>lt;sup>2</sup> https://data.apps.fao.org/aquastat/

 $<sup>^{3}\</sup> https://unstats.un.org/sdgs/report/2023/The-Sustainable-Development-Goals-Report-2023.pdf\ and$ 

 $https://www.unwater.org/sites/default/files/2023-08/UN-Water\_SDG6\_SynthesisReport\_2023.pdf$ 

<sup>&</sup>lt;sup>4</sup> https://data.apps.fao.org/aquamaps/?lang=en

2023, together with a new version (version 3) of the data layers. In line with the global expansion, the project activities are starting in Asia (Pakistan) and Latin America (Colombia), with inception workshops planned in the autumn of 2023.

8. **Flood management**: Recognizing the devastating impacts of floods on agriculture and rural communities and the potential benefits of managing floods and floods water for aquaculture, agriculture and rural development, a technical report on *Integrated Flood Management for Resilient Agrifood Systems and Rural Development* has been prepared and is to be published before the end of the year. While recognizing that no one-size-fits-all solution exists, the report proposes eight recommendations that were included in the FAO Conference document C 2023/2<sup>5</sup> and discussed at the 43rd Session of the FAO Conference.

9. **Irrigation assessment and irrigation potential mapping**: FAO strongly promotes the transition to digital agriculture through the development and application of innovative tools and approaches from farm to system levels. Digital tools for assessment and monitoring are developed for the identification of irrigation schemes needing modernization and rehabilitation (PRISM) and the Remote Rapid Appraisal Procedure (RE-RAP) that performs semi-automated image-based analysis for damage assessment in irrigation canal networks. In advancing monitoring, two desktop applications have been developed: the Rapid Appraisal Procedure (RAP) for diagnostic assessment of water resources' performance, institutional management and irrigation services (hardware and software) in pressurized irrigation systems<sup>6</sup>; the Asset Management Framework (AMF) to perform condition-based asset management, including inventory, condition and criticality assessment and life-cycle cost analysis (country-specific, for potential upscaling).

10. The irrigation potential mapping further aims at supporting countries to mobilize sufficient resources for irrigation development and to sustain a prudent irrigation strategy with a well-justified, prepared and targeted action plan. The initiative will eventually lead to a global digital platform that includes a multi-criteria decision support tool that can provide country-specific analysis on irrigation needs and potential. This will follow a country-driven process to reflect the varying needs and potential, so as to provide flexibility to incorporate national specificities with system sustainability and aligned to climate and food security trajectories.

11. **Crop water productivity**: two digital solutions were developed and upgraded: the AquaCrop to simulate yield response of crops to water and define best agricultural and irrigation practices to mitigate impacts, that is updated regularly, with the new release V7.0 and its core code released as open-source and available on GitHub for code development<sup>7</sup>; and the Blue House-Leb Application to support irrigation scheduling in greenhouses, considering infrastructure conditions and crop particularities (country-specific, for potential upscaling).

12. **Drought management**: Integrated Drought Management (IDM) is being carried out both at global and country levels. At global scale, a suite of activities has been conducted to enable countries to implement National Drought Plans according to the principles of IDM, in partnership with global stakeholders from the drought community. To this end, a multi-criteria analysis of endorsed plans was conducted to identify existing policy and technical gaps and barriers towards implementation and to formulate policy guidance for the enhancement of existing plans and their integration into relevant national policies. Additionally, a series of regional workshops are planned in Africa, Central America and Caribbean, Europe and Asia to enhance capacities in the effective implementation of National Drought Plans, strengthen institutional mechanisms and adoption of gender-based approaches, and document in-country best practices for co-learning. The workshops' outcomes will serve as basis for the formulation of country activities, to be planned and carried out in consultation with national stakeholders.

13. Countries' preparedness is supported through the enhancement of drought vulnerability and impact assessment approaches. A mapping of drought vulnerability assessment methodologies and a

<sup>&</sup>lt;sup>5</sup> https://www.fao.org/3/nm092en.pdf

<sup>&</sup>lt;sup>6</sup> https://www.fao.org/land-water/databases-and-software/rap/en/

<sup>&</sup>lt;sup>7</sup> https://www.fao.org/aquacrop/en/

manual for drought risk profiles are developed, and case studies are elaborated, in collaboration with national resources, to illustrate national best practices on vulnerability assessment. Additionally, a web-based application, the Drought Vulnerability and Impact Assessment Platform (D-VIAP), is under development to support quantitative evaluations of drought risks and impacts.

14. **Drought Finance Tracker:** With the objective to raise awareness on the need for increased financial efforts, a focus has been made on drought financing, for which a digital tool - the **Drought Finance Tracker**<sup>8</sup> - has been developed to provide statistics and analyses on drought finance. The tool was launched at a side event organized at the UN 2023 Water Conference. In addition, a report on the economics of drought is under preparation.

15. An **FAO Drought Portal**<sup>9</sup> is being developed as a global knowledge-sharing platform to foster the transition from crisis-led and reactive responses to risk-based and proactive measures in IDM, for resilient agriculture and improved food security. The portal includes FAO's project database on IDM and knowledge resources to foster the translation of policies into actions, in line with the call of UNCCD COP15 for halting land degradation and building drought resilience.

16. **AQUALEX**: the world's largest open-access free online collection of national and international freshwater-related laws and policies<sup>10</sup> provides free and open access to such texts (at this date about 22 000), which are all indexed and with the full text available, either translated or in the original language. In addition, AQUALEX provides selected country and transboundary water legal expert reports and various advanced search functions, and covers the whole range of freshwater issues, including but not limited to, governance, water supply, use of water in agriculture and aquaculture, water and the environment, and climate change.

### B. FAO's water actions in global dialogues and mechanisms

17. **Rome Water Dialogue**: The first Rome Water Dialogue took place on 29 November 2022, with over 700 participants online during the opening session, and over 80 in-person participants in FAO's Plenary Hall. During the event, knowledge was shared for a better understanding of the importance of water to achieve all Sustainable Development Goals (SDGs) in all three dimensions of sustainable development. A number of countries shared their existing national water strategies and actions. The importance of the UN 2023 Water Conference in March 2023 as the first UN conference on water in nearly 50 years was discussed as a "watershed moment". The initiative proposed by FAO on the National Water Roadmaps was presented and supported by Members participating in the Dialogue.

18. Considering the successful outcomes of the first Rome Water Dialogue, the Director-General promoted the Rome Water Dialogue at the UN 2023 Water Conference and invited related delegates to attend the annual Rome Water Dialogue. Therefore, FAO organized the second edition of the Rome Water Dialogue on 4-5 October 2023<sup>11</sup> at FAO headquarters in Rome, Italy, to coincide with the "Global Symposium on Soils and Water"<sup>12</sup>, from 2-5 October 2023, enabling technical exchanges among participants on the two interlinked topics.

19. **WASAG**: In collaboration with the Government of Cabo Verde and with the support of the Swiss Federal Office for Agriculture, the Global Framework on Water Scarcity in Agriculture (WASAG) hosted its second international forum in Praia, Cabo Verde, from 2-7 February 2023, with the participation of 300 in-person delegates and 1 500 online participants from 80 countries. The Forum adopted the Praia Call for Action, calling all member countries to join WASAG with the United States Department of Agriculture (USDA) as a new member, and had announced the First General Assembly of WASAG planned for 29-30 April 2024 in Rome, with the Prime Minister of

<sup>&</sup>lt;sup>8</sup> https://www.fao.org/in-action/drought-portal/drought-finance-tracker/en

<sup>&</sup>lt;sup>9</sup> https://www.fao.org/in-action/drought-portal/en

<sup>&</sup>lt;sup>10</sup> https://aqualex.fao.org/

<sup>&</sup>lt;sup>11</sup> https://www.fao.org/land-water/news-archive/news-detail/en/c/1648809/

<sup>&</sup>lt;sup>12</sup> https://www.fao.org/events/detail/symposium-soils-and-water/en

Cabo Verde as the first Chair. Preparations are underway on updating the WASAG governance structure and a new business model to reflect the outcomes of the international forum in Praia.

20. WASAG also collaborated with the Ministry of Agriculture of the Kingdom of the Netherlands and other partners to address saline agriculture including at events such as COP26 and COP27.

21. **National Water Roadmaps**: FAO held the first regional workshop on National Water Roadmaps for the Africa region in Harare, Zimbabwe, from 22-24 February 2023. Delegations from 34 African countries with over 350 participants attended the regional workshop focusing on the role of water for sustainable development. The meeting provided a platform for all stakeholders, including governments, international organizations, civil society, the private sector and academia, to discuss and develop country-specific National Water Roadmaps, taking into consideration regional and national perspectives. The FAO-China South-South Cooperation (SSC) Programme will provide USD 1.5 million to support the voluntary initiative, providing technical and financial support to eight developing countries in their efforts to recognize the value of water from social, economic, and environmental perspectives for addressing national-level coordination and dialogues.

22. **Global Dialogue on Water Tenure**: The FAO Committee on Agriculture, at its 28th Session, recommended FAO to initiate a Global Dialogue on Water Tenure in close collaboration with relevant UN agencies. In response to this recommendation, FAO organized a meeting of experts at FAO headquarters on 8-9 November 2022 to discuss a draft roadmap for the Global Dialogue on water tenure. The latter was presented during the first regional workshop for Africa on National Roadmaps and in a side event of the UN 2023 Water Conference together with the UN-Water Task Force on country-level engagement. FAO has mobilized extrabudgetary resources to conduct water tenure assessments and dialogues in three countries with an additional two to be implemented in 2023-2025.

23. UN 2023 Water Conference: During the UN 2023 Water Conference, held on 22-24 March 2023, a spectrum of water-related topics were discussed, showcasing the interlinkages of water with all goals and dimensions of sustainable development. The UN 2023 Water Conference featured, in addition to the six plenary meetings, five multi-stakeholder interactive dialogues. FAO was involved in two of these dialogues. FAO as the UN co-lead agency, together with the United Nations Development Programme (UNDP) and the World Bank, provided technical support to co-convene the Interactive Dialogue 2 on "Water for Development: Valuing Water, Water-Energy-Food Nexus and Sustainable Economic and Urban Development". The FAO Director-General moderated the Interactive Dialogue 5 on "Water Action Decade: Accelerating the implementation of the objectives of the Decade, including through the UN Secretary-General's Action Plan".

24. FAO co-led seven side events and engaged in over 35 side events in total, along with three special events. Several FAO water-related initiatives were presented at these side events, such as the National Water Roadmaps initiative, the Praia Call for Action, the Drought Fragility-Finance nexus, among others. Furthermore, the Global Dialogue on Water Tenure was launched during the UN 2023 Water Conference. FAO concluded the three-day event with an intervention at the closing Plenary in the General Assembly Hall, emphasizing FAO's eight commitments<sup>13</sup> submitted to the Global Water Action Agenda.

25. **Groundwater**: On 7 December 2022, FAO organized the plenary session dedicated to Finance, as one of the five SDG 6 accelerators, of the UN Groundwater Summit at the headquarters of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris, France, building upon the World Water Development Report 2022<sup>14</sup> dedicated to groundwater. Innovative finance solutions were presented to respond to specific groundwater challenges and for further dissemination during the UN 2023 Water Conference, the 2023 SDG Summit (September 2023) and

<sup>&</sup>lt;sup>13</sup> (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 and (8) AquaLex.

<sup>&</sup>lt;sup>14</sup> https://unesdoc.unesco.org/ark:/48223/pf0000380721

the Summit of the Future (September 2024). The UN-Water Joint <u>Message<sup>15</sup></u> issued at the end of the summit called Member States to register voluntary commitments on groundwater as part of the Water Action Agenda of the UN 2023 Water Conference.

26. **UN Decade on Ecosystem Restoration**: At the 15th Conference of Parties to the Convention on Biological Diversity (CBD COP15), FAO and the United Nations Environment Programme (UNEP) as the leading UN agencies jointly announced the ten first flagship initiatives of the UN Decade on Ecosystem Restoration, two of which include a significant freshwater component, i.e. Namami Gange (India) and Shan-Shui Initiative (China). On 9 January 2023, FAO participated in the International Conference on Climate Resilient Pakistan, co-hosted by the Government of Pakistan and the United Nations, and re-confirmed FAO's commitment to the post-flood recovery and reconstruction and support to the Living Indus Initiative.

27. **FAO Conference**: During the 43rd Session of the FAO Conference in July 2023 at FAO headquarters, FAO organized three High-Level Ministerial Roundtables: Water Scarcity<sup>16</sup>; Integrated Flood Risk Management<sup>17</sup>; and Water Infrastructure<sup>18</sup>. These roundtables provided an opportunity to build a shared understanding on the topics discussed and their impacts on agrifood systems, sharing lessons learned, strategies, and solutions to respective issues, and discussing the recommendations and need for potential work by FAO on integrated water resources management for resilient agrifood systems.

28. The Roundtable on Water Scarcity highlighted the urgency for collaborative actions among countries and other partners to address water scarcity in agriculture and the need to invest in new technologies and innovative practices and capacity development. In this regard, the role of IWRM was stressed with specific reference to good governance; policy coherence and institutional framework; cross sectoral collaboration at local, national and regional level; pricing of water and monitoring including of water quality. Furthermore, countries recognized the role of partnerships, and specifically the Global Framework on Water Scarcity in Agriculture (WASAG).

29. During the Roundtable on Integrated Flood Risk Management, participants discussed how different countries deal with flood prevention, control and post-flood recovery, and shared their best practices, solutions and lessons learned from flood risk management. Countries stressed that flooding has become a common phenomenon in many regions and that there is no one-size-fits-all solution for flood management. In particular, participants highlighted the need for more investments in early warning systems, adequate land use planning to minimize the damage of floods, and insurance systems to deal with flood prevention.

30. During the Roundtable on Water Infrastructure, focus was put on the importance of investing in efficient, resilient, equitable, and sustainable water infrastructure such as water storage and wastewater plants, together with the necessity for increased financial investments and partnerships in this field. The challenges of growing demand, climate change, deteriorating water quality, and aging infrastructure were highlighted, and FAO's response to address these issues was discussed. The solutions proposed included stressing the importance of water infrastructure investment, supporting governments in mobilizing resources and planning interventions, improving financial viability, promoting new funding sources, and investing in innovative, ecosystem-based solutions for water management.

31. The importance of involving youth, Indigenous Peoples and women in decision-making processes, empowering farmers, adopting interconnected and sustainable approaches, ensuring

<sup>&</sup>lt;sup>15</sup> <u>https://www.unwater.org/sites/default/files/2022-12/UN-Water%20Joint%20message%20on%20GW.pdf</u>

<sup>&</sup>lt;sup>16</sup> https://www.fao.org/fileadmin/user\_upload/bodies/Conference\_2023/C43\_Roundtabeles/Concept\_Note-Roundtable\_on\_Water\_Scarcity\_-\_2-7-2023.pdf

<sup>&</sup>lt;sup>17</sup>https://www.fao.org/fileadmin/user\_upload/bodies/Conference\_2023/C43\_Roundtabeles/Integrated\_Flood\_Risk\_Management/Roundtable\_on\_Integrated\_Flood\_Risk\_Management\_en.pdf

<sup>&</sup>lt;sup>18</sup>https://www.fao.org/fileadmin/user\_upload/bodies/Conference\_2023/C43\_Roundtabeles/Water\_Infrastructure/ Roundtable\_Water\_Infrastructure\_en.pdf

equitable access to water, and applying gender-sensitive budgeting methodologies was emphasized across all three roundtables.

## III. Looking forward: future needs for implementing IWRM in FAO

32. All the progress made demonstrates that FAO is in a unique position to support IWRM and scale-up interventions linking water with climate change, forest management, ecosystem restoration, biodiversity, soil and land management, nutrition, antimicrobial resistance, food safety and One Water One Health to achieve interwoven benefits and reduce risks.

33. Building upon FAO's expertise, rich experience and comprehensive work on water, and following the guidance provided by the 28th Session of the Committee on Agriculture (COAG), the Joint Meeting of the 134th Session of the Programme Committee and 194th Session of the Finance Committee, the 171st Session of the Council, and the 43rd Session of the FAO Conference, a suite of programmatic initiatives as listed in the document C 2023/30 *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<sup>19</sup> will be implemented in partnership with Members to advance IWRM in agrifood systems, contributing to all <i>four Betters* of the FAO Strategic Framework 2022–31.

34. In doing so, the priorities in 2024 include:

- a) supporting, upon request, the development of National Water Roadmaps through country-led dialogues and participatory processes, through regional workshops;
- b) supporting Members to actively engage and drive, when appropriate, the technical and political processes on the Global Dialogue on Water Tenure towards effective and inclusive water governance;
- c) supporting Members in decision making on irrigation development planning via the prioritization tool - PRISM - and piloting Global Irrigation Needs and Irrigation Potential Mapping in selected countries;
- d) expanding the scope of WaPOR to cover the whole globe and strengthening the WaPOR data and information portal;
- e) fostering FAO's work on flood related matters, such as disseminating the technical report on Integrated Flood Risk Management and starting the Global Assessment of Floods Impacts on Agriculture and Rural Development;
- f) continue implementing SoLaWise and AWSAMe, and mainstreaming IWRM into relevant PPAs;
- g) organizing the first Plenary Assembly of the WASAG in April 2024 and the 2024 Rome Water Dialogue;
- h) supporting Members, upon request, to improve coherence among water-related activities between agriculture and other sectors through IWRM approach; and
- i) supporting the FAO Regional Conferences, the Council and other Governing Bodies in discussion and decision-making on water issues.

35. Going forward in implementing all programmatic initiatives as highlighted in the document C 2023/30, the Joint Meeting is invited to take note of several key needs to drive acceleration and success:

- a) continued investment in technical capacity development both at the FAO headquarters and Decentralized Offices, in particular the Regional and Subregional Offices;
- b) continued resources mobilization in particular through prioritizing water in collaboration with all resource partners; and
- c) regular reports to the Governing Bodies on water during the biennium 2024-2025.

<sup>19</sup> https://www.fao.org/3/nm123en.pdf